



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

TO: Interested Parties / Applicant

DATE: January 15, 2013

RE: Brooks Construction Co. / 015 - 32317 - 03291

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FNPER.dot12/03/07



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Mr. John Brooks,
Brooks Construction Company, Inc.
6525 Ardmore Avenue
PO Box 9560
Fort Wayne, Indiana 46899

January 15, 2013

Re: 015-32317-03291
First Significant Permit Revision to
F035-26262-03291

Dear Mr. Brooks:

Brooks Construction Company, Inc was issued a New Source Review and Federally Enforceable State Operating Permit (FESOP) Renewal No. F035 26262 03291 on June 16, 2008 for a portable hot mix asphalt plant located at 2195 West US 421, Delphi, IN 46923, in Carroll County. On September 14, 2012, the Office of Air Quality (OAQ) received an application from the source requesting to add one feed bin and convert a portion of the RAP storage pile to ground asphalt shingles certified asbestos free shingles for use in the aggregate mix. This source also uses the steel slag and furnace slag in the aggregate mix. The attached Technical Support Document (TSD) provides additional explanation of the changes to the source and permit.

Pursuant to the provisions of 326 IAC 2-8-11.1, these changes to the permit are required to be reviewed in accordance with the Significant Permit Revision (SPR) procedures of 326 IAC 2-8-11.1(f). Pursuant to the provisions of 326 IAC 2-8-11.1, a significant permit revision to this permit is hereby approved as described in the attached Technical Support Document (TSD).

Pursuant to 326 IAC 2-8-11.1, this permit shall be revised by incorporating the significant permit revision into the permit. All other conditions of the permit shall remain unchanged and in effect. Attached please find the entire revised permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Renee Traivaranon, of my staff, at 317-234-5615 or 1-800-451-6027, and ask for extension 4-5615.

Sincerely,

Iryn Calilung, Section Chief
Permits Branch
Office of Air Quality

Attachments: Technical Support Document and revised permit

IC/rt

cc: File - Carroll County
Carroll County Health Department
U.S. EPA, Region V
Compliance and Enforcement Branch
Billing, Licensing and Training Section



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New Source Review and Federally Enforceable State Operating Permit Renewal OFFICE OF AIR QUALITY

Brooks Construction Company, Inc. (Portable)

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a FESOP under 326 IAC 2-8.

Operation Permit No.: F 035-26262-03291	
Issued by: <i>Original document signed by</i> Matthew Stuckey, Chief Permits Branch Office of Air Quality	Issuance Date: June 16, 2008 Expiration Date: June 16, 2018

First Relocation No. 103-27678-03291, issued on April 21, 2009
Second Relocation No. 003-29221-03291, issued on June 6, 2010
Third Portable Source Relocation No. 015-30552-03291, issued on July 8, 2011

Significant Permit Revision No. 015-32317-03291	
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: January 15, 2013 Expiration Date: June 16, 2018

TABLE OF CONTENTS

A. SOURCE SUMMARY	5
A.1 General Information [326 IAC 2-8-3(b)]	
A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]	
A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]	
A.4 FESOP Applicability [326 IAC 2-8-2]	
B. GENERAL CONDITIONS	7
B.1 Definitions [326 IAC 2-8-1]	
B.2 Permit Term [326 IAC 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]	
B.3 Term of Conditions [326 IAC 2-1.1-9.5]	
B.4 Enforceability [326 IAC 2-8-6] [IC 13-17-12]	
B.5 Severability [326 IAC 2-8-4(4)]	
B.6 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]	
B.7 Duty to Provide Information [326 IAC 2-8-4(5)(E)]	
B.8 Certification [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]	
B.9 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]	
B.10 Compliance Order Issuance [326 IAC 2-8-5(b)]	
B.11 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)]	
B.12 Emergency Provisions [326 IAC 2-8-12]	
B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5]	
B.14 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)]	
B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]	
B.16 Permit Renewal [326 IAC 2-8-3(h)]	
B.17 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]	
B.18 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]	
B.19 Source Modification Requirement [326 IAC 2-8-11.1]	
B.20 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2] [IC 13-30-3-1]	
B.21 Transfer of Ownership or Operational Control [326 IAC 2-8-10]	
B.22 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16] [326 IAC 2-1.1-7]	
B.23 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314] [326 IAC 1-1-6]	
C. SOURCE OPERATION CONDITIONS	17
Emission Limitations and Standards [326 IAC 2-8-4(1)]	
C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]	
C.2 Overall Source Limit [326 IAC 2-8]	
C.3 Opacity [326 IAC 5-1]	
C.4 Open Burning [326 IAC 4-1] [IC 13-17-9]	
C.5 Incineration [326 IAC 4-2] [326 IAC 9-1-2]	
C.6 Fugitive Dust Emissions [326 IAC 6-4]	
C.7 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]	
C.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]	
Testing Requirements [326 IAC 2-8-4(3)]	
C.9 Performance Testing [326 IAC 3-6]	
Compliance Requirements [326 IAC 2-1.1-11]	
C.10 Compliance Requirements [326 IAC 2-1.1-11]	

Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

- C.11 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]
- C.12 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)]
[326 IAC 2-8-5(1)]

Corrective Actions and Response Steps [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

- C.13 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]
- C.14 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]
- C.15 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]
- C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4]
[326 IAC 2-8-5]

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

- C.17 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]
- C.18 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

Portable Source Requirement

- C.19 Relocation of Portable Sources [326 IAC 2-14-4]

Stratospheric Ozone Protection

- C.20 Compliance with 40 CFR 82 and 326 IAC 22-1

D.1. EMISSIONS UNIT OPERATION CONDITIONS..... 25

Emission Limitations and Standards [326 IAC 2-8-4(1)]

- D.1.1 PSD Minor Limit [326 IAC 2-2]
- D.1.2 FESOP Limits: PM10, PM2.5, and CO [326 IAC 2-8-4][326 IAC 2-2] [326 IAC 2-1.1-5]
- D.1.3 FESOP Limits: SO2, NOx, and HAPs [326 IAC 2-8-4] [326 IAC 2-2] [326 IAC 2-4.1]
- D.1.4 VOC [326 IAC 8-1-6]
- D.1.5 Hazardous Air Pollutants (HAPs) [326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-4.1]
- D.1.6 Particulate Matter (PM) [326 IAC 6.5-1-2]
- D.1.7 Sulfur Dioxide (SO2) [326 IAC 7-1.1-1] [326 IAC 7-2-1]
- D.1.8 Volatile Organic Liquid Storage Vessels [326 IAC 8-9]
- D.1.9 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

Compliance Determination Requirements

- D.1.10 Particulate Control
- D.1.11 Testing Requirements
- D.1.12 Sulfur Dioxide (SO₂) Emissions and Sulfur Content
- D.1.13 Hydrogen Chloride (HCl) Emissions and Ash, Chlorine, and Lead Content
- D.1.14 Multiple Fuel and Slag Usage
- D.1.15 Shingle Asbestos Content

Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

- D.1.16 Visible Emissions Notations
- D.1.17 Parametric Monitoring
- D.1.18 Broken or Failed Bag Detection

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

- D.1.19 Record Keeping Requirements
- D.1.20 Reporting Requirements

D.2. EMISSIONS UNIT OPERATION CONDITIONS-----37

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.2.1 Particulate Emissions [326 IAC 6-2] [326 IAC 6.5-1-2]

D.3. EMISSIONS UNIT OPERATION CONDITIONS-----38

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.3.1 FESOP, and Minor PSD Limits for PM, PM10 and PM2.5 [326 IAC 2-8-4] [326 IAC 2-2]

D.3.2 Volatile Organic Liquid Storage Vessels [326 IAC 8-9]

E.1. NSPS REQUIREMENTS - Hot-Mix Asphalt Plant 39

New Source Performance Standards (NSPS) Requirements [326 IAC 2-8-4(1)]

- E.1.1 General Provisions Relating to NSPS [326 IAC 12] [40 CFR Part 60, Subpart A]
- E.1.2 New Source Performance Standards (NSPS) for Hot-mix Asphalt Facilities [40 CFR Part 60, Subpart I] [326 IAC 12]
- E.1.3 Testing Requirements

E.3 NESHAPs Requirements - Generator 41

- E.3.1 General Provisions Relating to NESHAP [40 CFR Part 63, Subpart A] [326 IAC 20-1]
- E.3.2 NESHAP for Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]
- E.3.3 Testing Requirements [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]

Certification Form 42
Emergency Occurrence Form 43
Quarterly Report Form 45
Quarterly Report Form 46
Quarterly Deviation and Compliance Monitoring Report Form 48

Fugitive Particulate Emissions Control Plan Attachment A
NSPS Subpart I - Standards of Performance for Hot-mix Asphalt Facilities Attachment B
NESHAP Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines Attachment D

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a portable drum hot mix asphalt plant. This source does not produce cold-mix.

Initial Source Address:	3571 West 500 South, Peru, Indiana 46970
General Source Phone Number:	(260) 478-1990
SIC Code:	2951 (Asphalt Paving Mixtures and Blocks)
Initial County Location:	Delaware
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This portable source consists of the following emission units and pollution control devices:

- (a) One (1) hot drum mix asphalt plant, constructed in 1987 (unless otherwise specified for specific units), approved for modification in 2012 to use steel slag, blast furnace slag and ground certified asbestos-free shingle in the aggregate mix, consisting of the following:
 - (1) One (1) aggregate drum mix dryer, identified as emission unit No. 2, with a maximum capacity of 300 tons per hour, equipped with one (1) No. 2 distillate fuel oil fired aggregate dryer burner with a maximum rated capacity of 123 million (MM) British thermal units (Btu) per hour using natural gas, refinery blend fuel oil, No. 4 fuel oil, No. 5 fuel oil, No. 6 fuel oil, or waste oil as back-up fuels and one (1) cyclone and baghouse in series for air pollution control, exhausting at one (1) stack, identified as SV1;
 - (2) Material conveying and handling operations consisting of the following:
 - (A) One (1) drag slat conveyor, three (3) feeder conveyors, and one (1) screen;
 - (B) One (1) cold feed system consisting of four (4) compartments with a total aggregate holding capacity of 100 tons;
 - (C) One (1) Recycled Asphalt Pavement (RAP) feed bin with a maximum holding capacity of 25 tons; and
 - (D) One (1) Recycled Asphalt Ground Shingle feed bin with a maximum holding capacity of 25 tons.

- (3) One (1) liquid asphalt storage tank, identified as Tank 10, constructed in 1979, with a maximum storage capacity of 25,000 gallons, exhausting at one (1) stack, identified as SV3;
- (4) One (1) hot mix asphalt cement storage silo with a maximum storage capacity of 300 tons;
- (5) Aggregate storage piles of stone, RAP, ground certified asbestos-free shingles, and steel slag and blast furnace slag, with a maximum storage capacity of 54,000 tons.

Above units are considered an affected source under 40 CFR 60, Subpart I.

- (6) One (1) low sulfur No. 2 distillate fuel oil fired reciprocating internal combustion generator, identified as emission unit 13, rated at 880 HP/hr, exhausting at one (1) stack, identified as SV5.

A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]

This portable source also includes the following insignificant activities:

- (a) One (1) No. 2 distillate fuel oil fired hot oil heater, identified as emission unit No. 9, rated at 1.96 MMBtu/hr using natural gas as back-up fuel, exhausting at one (1) stack, identified as SV2;
- (b) One (1) No. 2 distillate fuel oil storage tank, identified as Tank 11, with a maximum storage capacity of 12,000 gallons, exhausting at one (1) stack, identified as SV4;
- (c) One (1) alternative fuel oil storage tank, identified as Tank 66, with a maximum storage capacity of 15,000 gallons, approved for construction in 2008;
- (d) One (1) testing lab trailer; and
- (e) Paved and unpaved roads and parking lots with public access.

A.4 FESOP Applicability [326 IAC 2-8-2]

This portable source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) to renew a Federally Enforceable State Operating Permit (FESOP).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-8-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Permit Term [326 IAC 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]

- (a) This permit, F 035-26262-03291, is issued for a fixed term of ten (10) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

B.3 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

- (a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or
- (b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability [326 IAC 2-8-6] [IC 13-17-12]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.5 Severability [326 IAC 2-8-4(4)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]

This permit does not convey any property rights of any sort or any exclusive privilege.

B.7 Duty to Provide Information [326 IAC 2-8-4(5)(E)]

- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]

- (a) A certification required by this permit meets the requirements of 326 IAC 2-8-5(a)(1) if:

- (1) it contains a certification by an "authorized individual", as defined by 326 IAC 2-1.1-1(1), and
 - (2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
 - (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

B.9 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

- (a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) The annual compliance certification report shall include the following:
 - (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
 - (2) The compliance status;
 - (3) Whether compliance was continuous or intermittent;
 - (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and
 - (5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.10 Compliance Order Issuance [326 IAC 2-8-5(b)]

IDEM, OAQ may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

B.11 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)]

- (a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

The Permittee shall implement the PMPs.

- (b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

The Permittee shall implement the PMPs.

- (c) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.12 Emergency Provisions [326 IAC 2-8-12]

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation except as provided in 326 IAC 2-8-12.

- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
- (2) The permitted facility was at the time being properly operated;
- (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
- (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865

- (5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-8-4(3)(C)(ii) and must contain the following:

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
- (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
- (e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.
- (f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-8 and any other applicable rules.
- (g) Operations may continue during an emergency only if the following conditions are met:
- (1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
 - (2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:
 - (A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and
 - (B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

Any operations shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to F 035-26262-03291 and issued pursuant to permitting programs approved into the state implementation plan have been either:
- (1) incorporated as originally stated,
 - (2) revised, or

(3) deleted.

(b) All previous registrations and permits are superseded by this permit.

B.14 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-8-3(h) and 326 IAC 2-8-9.

**B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination
[326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]**

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:
- (1) That this permit contains a material mistake.
 - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
 - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]
- (c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

B.16 Permit Renewal [326 IAC 2-8-3(h)]

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue

MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:
- (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-8-3(g), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.

- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.18 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) and (c) without a prior permit revision, if each of the following conditions is met:

- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
- (2) Any approval required by 326 IAC 2-8-11.1 has been obtained;
- (3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
- (4) The Permittee notifies the:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

- (5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-8-15(b)(1) and (c). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-8-15(b)(1) and (c).

- (b) Emission Trades [326 IAC 2-8-15(b)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(b).
- (c) Alternative Operating Scenarios [326 IAC 2-8-15(c)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ, or U.S. EPA is required.
- (d) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.19 Source Modification Requirement [326 IAC 2-8-11.1]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

B.20 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a FESOP source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.21 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

- (a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.22 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ no later than thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.
- (b) Failure to pay may result in administrative enforcement action or revocation of this permit.
- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.23 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314] [326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-8-4(1)]

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 Overall Source Limit [326 IAC 2-8]

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM) and greenhouse gases (GHGs), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.
- (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
- (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.
- (4) The potential to emit greenhouse gases (GHGs) from the entire source shall be limited to less than one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) per twelve (12) consecutive month period.

(b) Pursuant to 326 IAC 2-2 (PSD), potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period.

(c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.

(d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

C.3 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (Applicability) and 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4, when this source is located in the following Counties/Townships/Areas:
1. Clark County (Jefferson Township - Cities of Jeffersonville, Clarksville, Oak Park),
 2. Dearborn County (Lawrenceburg Township - Cities of Lawrenceburg and Greendale)
 3. Dubois County (Bainbridge Township - the City of Jasper)
 4. Marion County (except the area of Washington Township east of Fall Creek and the area of Franklin Township south of Thompson Road and east of Five Points Road)
 5. St. Joseph County (the area north of Kern Road and east of Pine Road)
 6. Vanderburgh County (the area included in the City of Evansville and Pigeon Township)
 7. Vigo County (Indiana State University campus, 0.5km radius around UTM Easting 464,519.00, Northing 4,369,208.00, Zone 16)
- (b) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4, when this source is located in all other counties and areas not listed above.
- (c) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.4 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.5 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

C.6 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

C.7 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the attached plan as in Attachment A.

C.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work

or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

- (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
- (2) If there is a change in the following:
 - (A) Asbestos removal or demolition start date;
 - (B) Removal or demolition contractor; or
 - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (e) **Procedures for Asbestos Emission Control**
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Demolition and Renovation**
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Licensed Asbestos Inspector**
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

Testing Requirements [326 IAC 2-8-4(3)]

C.9 Performance Testing [326 IAC 3-6]

-
- (a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.10 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

C.11 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]

Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or of initial start-up, whichever is later, to begin such monitoring. If due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance or the date of initial startup, whichever is later, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a permit revision shall be implemented when operation begins.

C.12 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)][326 IAC 2-8-5(1)]

- (a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.
- (b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

C.13 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

- (a) The Permittee shall maintain the most recently submitted written emergency reduction plans (ERPs) consistent with safe operating procedures.
- (b) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.14 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

C.15 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]

Upon detecting an excursion where a response step is required by the D Section or an exceedance of a limitation in this permit:

- (a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:
 - (1) initial inspection and evaluation;
 - (2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system);
or
 - (3) any necessary follow-up actions to return operation to normal or usual manner of operation.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
 - (1) monitoring results;

- (2) review of operation and maintenance procedures and records; and/or
- (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall record the reasonable response steps taken.

C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.
- (b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

C.17 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. Support information includes the following:
 - (AA) All calibration and maintenance records.
 - (BB) All original strip chart recordings for continuous monitoring instrumentation.
 - (CC) Copies of all reports required by the FESOP.

Records of required monitoring information include the following:

- (AA) The date, place, as defined in this permit, and time of sampling or measurements.
- (BB) The dates analyses were performed.
- (CC) The company or entity that performed the analyses.
- (DD) The analytical techniques or methods used.
- (EE) The results of such analyses.
- (FF) The operating conditions as existing at the time of sampling or measurement.

These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

- (b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of

permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

C.18 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of this paragraph. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.
- (b) The address for report submittal is:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

Portable Source Requirement

C.19 Relocation of Portable Sources [326 IAC 2-14-4]

- (a) This permit is approved for operation in all areas of Indiana except in severe nonattainment areas for ozone (at the time of this permit's issuance these areas were Lake and Porter Counties). This determination is based on the requirements of Prevention of Significant Deterioration in 326 IAC 2-2. Prior to locating in any severe nonattainment area, the Permittee must submit a request and obtain a permit modification.
- (b) A request to relocate shall be submitted to IDEM, OAQ at least thirty (30) days prior to the intended date of relocation. This submittal shall include the following:
 - (1) A list of governmental officials entitled to receive notice of application to relocate. IC 13-15-3-1
 - (2) A list of adjacent landowners that the Permittee will send written notice to not more than ten (10) days after submission of the request to relocate. IC 13-15-8
 - (3) The new location address of the portable source.

- (4) Whether or not this portable source will be relocated to another source.
- (5) If relocating to another source:
 - (A) Name, location address, and permit number of the source this portable source is relocating to.
 - (B) Whether or not the sources will be considered as one source. See Non Rule Policy (NRP) Air-005 and Air-006.
- (6) If the sources will be considered as one source, whether or not the source to be relocated to has received the necessary approvals from IDEM to allow the relocation.

The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) A "Relocation Site Approval" letter shall be obtained prior to relocating.
- (d) A valid operation permit consists of this document and any subsequent "Relocation Site Approval" letter specifying the current location of the portable plant.

Stratospheric Ozone Protection

C.20 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with applicable standards for recycling and emissions reduction.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Hot-mix Asphalt Plant

- (a) One (1) hot drum mix asphalt plant, constructed in 1987 (unless otherwise specified for specific units), approved for modification to use steel slag, blast furnace slag and ground certified asbestos-free shingle in 2012, consisting of the following:
- (1) One (1) aggregate drum mix dryer, identified as emission unit No. 2, with a maximum capacity of 300 tons per hour, equipped with one (1) No. 2 distillate fuel oil fired aggregate dryer burner with a maximum rated capacity of 123 million (MM) British thermal units (Btu) per hour using natural gas, refinery blend fuel oil, No. 4 fuel oil, No. 5 fuel oil, No. 6 fuel oil, or waste oil as back-up fuels and one (1) cyclone and baghouse in series for air pollution control, exhausting at one (1) stack, identified as SV1;
 - (2) Material conveying and handling operations consisting of the following:
 - (A) One (1) drag slat conveyor, three (3) feeder conveyors, and one (1) screen;
 - (B) One (1) cold feed system consisting of four (4) compartments with a total aggregate holding capacity of 100 tons;
 - (C) One (1) Recycled Asphalt Pavement (RAP) feed bin with a maximum holding capacity of 25 tons; and
 - (D) One (1) Recycled Asphalt Ground Shingle feed bin with a maximum holding capacity of 25 tons.
 - (3) One (1) liquid asphalt storage tank, identified as Tank 10, constructed in 1979, with a maximum storage capacity of 25,000 gallons, exhausting at one (1) stack, identified as SV3;
 - (4) One (1) hot mix asphalt cement storage silo with a maximum storage capacity of 300 tons;
 - (5) Aggregate storage piles of stone, RAP, ground certified asbestos-free shingles, and steel slag and blast furnace slag, with a maximum storage capacity of 54,000 tons.

Above units are considered an affected source under 40 CFR 60, Subpart I.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.1.1 PSD Minor Limit [326 IAC 2-2]

In order to render 326 IAC 2-2 not applicable;

- (a) The amount of asphalt processed shall not exceed 1,359,521 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The PM emissions from the dryer/mixer shall not exceed 0.288 pounds per ton of asphalt processed.

Compliance with these limitations, combined with the limited potential to emit from other emission units at this source, shall limit the source-wide total potential to emit PM to less than 250 tons per 12 consecutive month period and shall render 326 IAC 2-2 (PSD) not applicable.

D.1.2 FESOP Limits: PM10, PM2.5, and CO [326 IAC 2-8-4][326 IAC 2-2] [326 IAC 2-1.1-5]

Pursuant to 326 IAC 2-8-4, the Permittee shall comply with the following:

- (a) The amount of asphalt processed shall not exceed 1,359,521 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The PM10 emissions from the dryer/mixer shall not exceed 0.120 pounds per ton of asphalt processed.
- (c) The PM2.5 emissions from the dryer/mixer shall not exceed 0.132 pounds of PM2.5 per ton of asphalt produced.
- (d) The CO emissions from the dryer/mixer shall not exceed 0.130 pounds per ton of asphalt processed.

Compliance with these limits, combined with the potential to emit PM10, PM2.5, and CO from all other emission units at this source, shall limit the source-wide total potential to emit of PM10, PM2.5, and to less than 100 tons per 12 consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permits), and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), not applicable.

D.1.3 FESOP Limits: SO2, NOx, and HAPs [326 IAC 2-8-4] [326 IAC 2-2] [326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4, and in order to render 326 IAC 2-2 and 326 IAC 2-4.1 not applicable, the Permittee shall comply with the following:

(a) Fuel and Slag Specifications

- (1) The sulfur content of the No. 2 distillate fuel oil shall not exceed 0.50% by weight.
- (2) The sulfur content of the No. 4 residual fuel oil shall not exceed 1.0% by weight.
- (3) The sulfur content of the No. 5 and 6 residual fuel oils shall not exceed 1.0% by weight.
- (4) The sulfur content of the waste oil shall not exceed 1.0% by weight.
- (5) The waste oil combusted in the dryer burners shall not contain more than 0.7% ash, 0.40% chlorine, and 0.040% lead.
- (6) The sulfur content of the blast furnace slag shall not exceed 1.50% by weight.
- (7) The SO2 emissions from the dryer/mixer shall not exceed 0.740 pounds per ton of blast furnace slag processed in the aggregate mix.
- (8) The sulfur content of the steel slag shall not exceed 0.66% by weight.
- (9) The SO2 emissions from the dryer/mixer shall not exceed 0.0014 pounds per ton of Steel slag processed in the aggregate mix.

(b) Single Fuel and Slag Usage Limitations:

When combusting only one type of fuel per twelve (12) consecutive month period in the dryer/mixer burner, the usage of fuel shall be limited as follows:

- (1) Waste oil usage shall not exceed 750,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (2) No. 2 fuel oil usage shall not exceed 2,011,134 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (3) No. 4 fuel oil usage shall not exceed 909,494 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (4) No. 5, fuel oil usage shall not exceed 909,494 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (5) No. 6 fuel oil usage shall not exceed 909,494 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (6) Natural gas usage shall not exceed 732.47 cubic feet (MMCF) per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (7) Fuel oil #2 usage in the generator shall not exceed 120,000 gallons per consecutive twelve (12) month period, with compliance to be determined at the end of each month.
- (8) The Blast Furnace slag usage shall not exceed 50,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (9) The Steel Slag usage shall not exceed 679,761 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Note: The source is only permitted to burn the above-mentioned fuels.

(c) Multiple Fuel and Slag Usage Limitation:

When combusting more than one fuel per twelve (12) consecutive month period in the dryer/mixer burner, in conjunction with the use of slag in the aggregate mix, emissions from the dryer/mixer burner and generator shall be limited as follows:

- (1) SO₂ emissions from the dryer/mixer burner and generator shall not exceed 94.65 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (2) NO_x emissions from the dryer/mixer burner and generator shall not exceed 97.77 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (3) HCl emissions from the dryer/mixer burner shall not exceed 9.90 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (4) CO₂ equivalent emissions (CO₂e) from the dryer/mixer burner and generator shall not exceed 45,643.78 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(d) Asphalt Shingle Usage Limitation

Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAPs)) not applicable, the Permittee shall not grind recycled asphalt shingles on-site and shall only use certified asbestos-free recycled shingles, post consumer waste and/or factory seconds, as an additive in its aggregate mix.

Compliance with these limits, combined with the potential to emit SO₂, NO_x, and HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of SO₂ and NO_x to less than 100 tons per twelve (12) consecutive month period, each, any single HAP to less than ten (10) tons per twelve (12) consecutive month period, total HAPs to less than twenty-five (25) tons per twelve (12) consecutive month period, and greenhouse gases (GHGs) to less than 100,000 tons of CO₂ equivalent emissions (CO₂e) per 12 consecutive month period and shall render the requirements of 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable.

D.1.4 VOC [326 IAC 8-1-6]

In order to render 326 IAC 8-1-6 not applicable, the Permittee shall comply with the following:

- (a) The amount of asphalt processed shall not exceed 1,387,545 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The VOC emissions from the dryer/mixer shall not exceed 0.032 pounds per ton of asphalt processed.

Compliance with these limits shall render 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities) not applicable.

D.1.5 Hazardous Air Pollutants (HAPs) [326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4, the Permittee shall comply with the following fuel limitations combusted in the dryer/mixer burner and all other combustion equipment:

- (a) The waste oil usage in the dryer/mixer burner shall not exceed 750,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The HCl emissions shall not exceed 26.4 pounds of HCl per 1,000 gallons of waste oil burned.
- (c) The waste oil combusted shall not contain more than 0.70% ash, 0.400% chlorine, and 0.04% Lead.
- (d) The Permittee shall use only certified asbestos-free factory second and/or post consumer waste shingles as an additive in its aggregate mix.

Compliance with these limits, combined with the limited PTE from all other emission units at this source, shall limit the source-wide total potential to emit of any single HAP to less than 10 tons per 12 consecutive month period, and any combination of HAPs to less than 25 tons per 12 consecutive month period, and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (PSD), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable.

D.1.6 Particulate Matter (PM) [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations except Lake County), particulate matter (PM) emissions from the aggregate mixing and drying operation, shall be limited to 0.03 grains per dry standard cubic foot (gr/dscf), when operating in the counties listed in 326 IAC 6.5-1-1(a).

D.1.7 Sulfur Dioxide (SO₂) [326 IAC 7-1.1-1] [326 IAC 7-2-1]

(a) Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), the Permittee shall comply with the following:

- (1) The sulfur dioxide (SO₂) emissions from the dryer/mixer burner shall not exceed five tenths (0.5) pounds per MMBtu when using distillate oil.
- (2) The sulfur dioxide (SO₂) emissions from the dryer/mixer burner shall not exceed one and six tenths (1.6) pounds per MMBtu heat input when using residual oil.

Note: No. 2 fuel oil is considered distillate oil, and No. 4, 5, 6, blend fuel oils and waste oil are considered residual oil.

(b) Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average.

D.1.8 Volatile Organic Liquid Storage Vessels [326 IAC 8-9]

Pursuant to 326 IAC 8-9-1(b), the liquid asphalt storage tank (Tank 10) is subject to the reporting and recordkeeping provisions of section 6(a) and 6(b) of this rule when the source is located in Clark or Floyd Counties.

D.1.9 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan is required for these facilities and any corresponding control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.1.10 Particulate Control

(a) In order to comply with Conditions D.1.1(b), D.1.2(b), D.1.2(c), and D.1.6, the baghouse for particulate control shall be in operation and control emissions from the dryer/mixer at all times when the dryer/mixer is in operation.

(b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.1.11 Testing Requirements

- (a) In order to demonstrate compliance with Conditions D.1.1(b), D.1.2(b), and D.1.2(c), the Permittee shall perform PM, PM10, and PM2.5 testing on stack SV1, not later than five (5) years from the most recent valid compliance demonstration, utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM10 and PM2.5 includes filterable and condensable particulate matter.

- (b) In order to demonstrate compliance with Condition D.1.3(a)(8), when using Blast Furnace slag, the Permittee shall perform SO₂ testing on stack SV1, within one hundred eighty (180) days of initial use of Blast Furnace slag in the aggregate mix, utilizing methods as approved by the Commissioner. Testing shall only be performed if the company has not previously performed SO₂ testing while using Blast Furnace slag in the aggregate mix at one of their other Indiana facilities. Testing shall be conducted in accordance with Section C- Performance Testing.

D.1.12 Sulfur Dioxide (SO₂) Emissions and Sulfur Content

Fuel Oil

- (a) Pursuant to 326 IAC 3-7-4 and 326 IAC 2-8-4, compliance with the fuel limitations established in Conditions D.1.3(a) and D.1.7, shall be determined utilizing one of the following options. Compliance shall be demonstrated on a thirty (30) day calendar-month average.
 - (1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification; or
 - (2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
 - (A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
 - (B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
 - (3) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to any of the methods specified in (1) or (2) or (3) above shall not be refuted by evidence of compliance pursuant to the other method.

Blast Furnace Slag

- (b) Pursuant to 326 IAC 2-8-4, compliance with the blast furnace slag and steel slag limitation established in Condition D.1.3(a)(7) shall be determined utilizing one of the following options. Compliance shall be demonstrated on a thirty (30) day calendar-month average.
 - (1) Maintaining all records of vendor analyses or certifications of blast furnace slag delivered; or

- (2) Analyzing a sample of each blast furnace slag delivery, if no vendor analyses or certifications are available, to determine the sulfur content of the blast furnace slag, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.
- (3) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6, or other procedures approved by IDEM, OAQ.

A determination of noncompliance pursuant to any of the methods specified in (1) or (2) or (3) above shall not be refuted by evidence of compliance pursuant to the other method.

Steel Slag

- (c) Pursuant to 326 IAC 2-8-4, compliance with the steel slag limitations established in Condition D.1.3(a)(9) shall be determined utilizing one of the following options. Compliance shall be demonstrated on a thirty (30) day calendar-month average.
 - (1) Maintaining all records of vendor analyses or certifications of steel slag delivered; or
 - (2) Analyzing a sample of the steel slag delivery if no vendor analyses or certifications are available, at least once per quarter, to determine the sulfur content of the steel slag, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.
 - (3) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6, or other procedures approved by IDEM, OAQ.

A determination of noncompliance pursuant to any of the methods specified in (1) or (2) or (3) above shall not be refuted by evidence of compliance pursuant to the other method.

D.1.13 Hydrogen Chloride (HCl) Emissions and Ash, Chlorine, and Lead Content

The Permittee shall demonstrate compliance with the waste oil ash, chlorine, and lead content limits established in Condition D.1.5(c) by providing a vendor analysis of each fuel delivery accompanied by a vendor certification.

D.1.14 Multiple Fuel and Slag Usage

In order to determine comply with the Condition D.1.3(c) when combusting more than one fuel per twelve (12) consecutive month period in the dryer/mixer burner, in conjunction with the use of slag in the aggregate mix, the Permittee shall use to the following formulas:

- (a) Sulfur Dioxide (SO₂) Emission Calculation

$$SO_2 = \frac{N(E_N) + O(E_O) + T(E_T) + W(E_W) + G(E_G) + B(E_B) + S(E_S)}{2,000 \text{ lbs/ton}}$$

where:

SO₂ = tons of sulfur dioxide emissions for a 12-month consecutive period

N = million cubic feet of natural gas used in the dryer/mixer burner in the last 12 months

O = gallons of No. 2 fuel oil used in the dryer/mixer burner in the last 12 months
T = gallons of No. 4, 5, 6 fuel oils used in the dryer/mixer burner in the last 12 months
W = gallons of waste oil used in the dryer/mixer in the burner last 12 months
G = gallons of No.2 fuel used in the generator in the last 12 months
B = tons of blast furnace slag used in the dryer/mixer in the last 12 months
S = tons of steel slag used in the in the dryer/mixer last 12 months

E_N = 0.60 lb/million cubic feet of natural gas
 E_O = 71.0 lb/1000 gallons of No. 2 fuel oil
 E_T = 157.0 lb/1000 gallons of No. 4, 5, 6 fuel oils
 E_W = 147 lb/1000 gallons of waste oil
 E_G = 79.18 lb/1000 gallons of oil in the generator
 E_B = 0.74 lb/ton of blast furnace slag used
 E_S = 0.0014 lb/ton of steel slag used

(b) Nitrogen Oxides (NOx) Emission Calculation:

$$NOx = \frac{N(E_N) + O(E_O) + T(E_T) + W(E_W) + G(E_G)}{2,000 \text{ lbs/ton}}$$

where:

NOx= tons of nitrogen oxide emissions for a 12-month consecutive period;
N = million cubic feet of natural gas used in the dryer/mixer burner in the last 12 months
O = gallons of No. 2 fuel oil used in the dryer/mixer burner in the last 12 months
T = gallons of No. 4, 5, 6 fuel oils used in the dryer/mixer burner in the last 12 months
W = gallons of waste oil used in the dryer/mixer in the burner last 12 months
G = gallons of No.2 fuel used in the generator in the last 12 months

E_N = 190 lb/million cubic feet of natural gas
 E_O = 24.0 lb/1000 gallons of No. 2 fuel oil
 E_T = 47.0 lb/1000 gallons of No. 4, 5, 6 fuel oils
 E_W = 19.0 lb/1000 gallons of waste oil
 E_G = 469.82 lb/1000 gallons of No.2 oil used in the generator

(c) HCl emissions Calculation:

$$HCl = \frac{W(E_W)}{2,000 \text{ lbs/ton}}$$

where:

HCl = tons of Hydrogen Chloride emissions for twelve (12) month consecutive period
W = gallons of waste oil used in the last 12 months
 E_W = 26.4 lb/1000 gallons of waste oil

(d) CO₂e emissions Calculation:

$$CO_2e = \sum [(CO_2 \times CO_2 \text{ GWP}) + (CH_4 \times CH_4 \text{ GWP}) + (N_2O \times N_2O \text{ GWP})]$$

Where:

CO₂e = tons of CO₂e equivalent emissions for last 12 consecutive month period;

Greenhouse Warming Potentials (GWP)
Carbon dioxide (CO₂ GWP) = 1

$$\begin{aligned}\text{Methane (CH}_4 \text{ GWP)} &= 21 \\ \text{Nitrous oxide (N}_2\text{O GWP)} &= 310\end{aligned}$$

$$\text{CO}_2 = \frac{[\text{N}(\text{X}_\text{N}) + \text{O}(\text{X}_\text{O}) + \text{T}(\text{X}_\text{T}) + \text{W}(\text{X}_\text{W}) + \text{G}(\text{X}_\text{G})]}{2,000}$$

$$\text{CH}_4 = \frac{[\text{N}(\text{X}_\text{N}) + \text{O}(\text{X}_\text{O}) + \text{T}(\text{X}_\text{T}) + \text{W}(\text{X}_\text{W}) + \text{G}(\text{X}_\text{G})]}{2,000}$$

$$\text{N}_2\text{O} = \frac{[\text{N}(\text{X}_\text{N}) + \text{O}(\text{X}_\text{O}) + \text{T}(\text{X}_\text{T}) + \text{W}(\text{X}_\text{W}) + \text{G}(\text{X}_\text{G})]}{2,000}$$

CO₂ = tons of CO₂ emissions for last 12 consecutive month period;
CH₄ = tons of CH₄ emissions for last 12 consecutive month period; and
N₂O = tons of N₂O emissions for last 12 consecutive month period

N = million cubic feet of natural gas used in the dryer/mixer burner in the last 12 months
O = gallons of No. 2 fuel oil used in the dryer/mixer burner in the last 12 months
T = gallons of No. 4, 5, 6 fuel oils used in the dryer/mixer burner in the last 12 months
W = gallons of waste oil used in the dryer/mixer in the burner last 12 months
G = gallons of No.2 fuel used in the generator in the last 12 months

For CO₂:

X_N = 120,161.84 x 10⁻⁶ pounds per cubic feet of natural gas;
X_O = 22,501.41 x 10⁻³ pounds per gallon of No. 2 fuel oil;
X_T = 24,835.04 x 10⁻³ pounds per gallon of No. 4, 5, 6 fuel oils;
X_W = 22,024.15 x 10⁻³ pounds per gallon of waste oil; and
X_G = 22,707.83 x 10⁻³ pounds per gallon of No. 2 fuel oil in the generator

For CH₄:

X_N = 2.49 x 10⁻⁶ pounds per cubic feet of natural gas;
X_O = 0.91 x 10⁻³ pounds per gallon of No. 2 fuel oil;
X_T = 1.0 x 10⁻³ pounds per gallon of No. 4, 5, 6 fuel oils;
X_W = 0.89 x 10⁻³ pounds per gallon of waste oil; and
X_G = 1.24 x 10⁻³ pounds per gallon of No. 2 fuel oil in the generator

For N₂O:

X_N = 2.2 x 10⁻⁶ pounds per cubic feet of natural gas;
X_O = 0.26 x 10⁻³ pounds per gallon of No. 2 fuel oil;
X_T = 0.53 x 10⁻³ pounds per gallon of No. 4, 5, 6 fuel oils;
X_W = 0.18 x 10⁻³ pounds per gallon of waste oil; and
X_G = 0.18 x 10⁻³ pounds per gallon of No. 2 fuel oil in the generator

D.1.15 Shingle Asbestos Content

Pursuant to 326 IAC 2-8-4, compliance with Condition D.1.3(d) shall be determined utilizing one of the following options:

- (1) Providing shingle supplier certification that the recycled asphalt shingles (factory seconds and/or post consumer waste) do not contain asbestos; or
- (2) Analyzing a sample of the recycled asphalt shingles (factory seconds and/or post consumer waste) delivery to determine the asbestos content of the shingles, utilizing any

applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A determination of noncompliance pursuant to any of the methods specified above shall not be refuted by evidence of compliance pursuant to the other method.

Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

D.1.16 Visible Emissions Notations

- (a) Visible emission notations from the conveyors, screens, material transfer points, and dryer/mixer stack (SV1) exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An abnormal visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.1.17 Parametric Monitoring

The Permittee shall record the pressure drop across the baghouses used in conjunction with the dryer/mixer, at least once per day when the dryer/mixer are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of two (2.0) and eight (8.0) inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months, or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer specifications, if used.

D.1.18 Broken or Failed Bag Detection

In the event that bag failure has been observed:

- (a) For a single compartment baghouses controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces, or triboflows.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.1.19 Record Keeping Requirements

- (a) To document the compliance status with Conditions D.1.1(a), D.1.2(a), and D.1.4(a) the Permittee shall keep monthly records of the amount of asphalt processed through the dryer/mixer.
- (b) To document the compliance status with Conditions D.1.3, D.1.5, and D.1.7, the Permittee shall maintain records in accordance with (1) through (10) below. Records maintained for (1) through (10) below shall be taken monthly and shall be complete and sufficient to establish compliance with the limits established in Conditions D.1.3, D.1.5, and D.1.7.
- (1) Calendar dates covered in the compliance determination period;
 - (2) Actual fuel usage, sulfur content, heat content, and equivalent sulfur dioxide, emission rates for each fuel used at the source since the last compliance determination period;
 - (3) Actual waste oil usage, ash, chlorine, and lead content, and equivalent hydrogen chloride emission rate for waste oil used at the source since the last compliance determination period;
 - (4) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period; and
 - (5) If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
 - (i) Fuel supplier certifications;
 - (ii) The name of the fuel supplier; and
 - (iii) A statement from the fuel supplier that certifies the sulfur content of the No. 2, 4, 5, 6 and waste oil, and the ash, chlorine, and lead content of waste oil.
 - (6) Actual blast furnace and steel slag usage, sulfur content and equivalent sulfur dioxide emission rates for all blast furnace and steel slag used at the source since the last compliance determination period;
 - (7) A certification, signed by the owner or operator, that the records of the blast furnace and steel slag supplier certifications represent all of the blast furnace and steel slag used during the period; and

- (8) If the slag supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
 - (i) Blast furnace and steel slag supplier certifications;
 - (ii) The name of the blast furnace and steel slag supplier; and
 - (iii) A statement from the blast furnace and steel slag supplier that certifies the sulfur content of the blast furnace and steel slag.
- (9) A certification, signed by the owner or operator, that the records of the shingle supplier certifications represent all of the shingles used during the period; and
- (10) If the shingle supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:
 - (i) Shingle supplier certifications;
 - (ii) The name of the shingle supplier(s); and
 - (iii) A statement from the shingle supplier(s) that certifies the asbestos content of the shingles from their company.
- (c) To document the compliance status with Condition D.1.8, the Permittee shall maintain records of the tank identification number, the tank dimensions, and the tank capacity of the liquid asphalt storage tank, when the source is located in Clark or Floyd Counties.
- (d) To document the compliance status with Condition D.1.16, the Permittee shall maintain records of visible emission notations of the dryer/mixer stack (SV1) and exhaust once per day. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).
- (e) To document the compliance status with Condition D.1.17, the Permittee shall maintain records once per day of the pressure drop during normal operation. The Permittee shall include in its daily record when the pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g., the process did not operate that day).
- (f) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.1.20 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.1.1(a), D.1.2(a), D.1.3, and D.1.4(a), shall be submitted using the reporting forms located at the end of this permit, or their equivalent, not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Insignificant Activities

- (a) One (1) No. 2 distillate fuel oil fired hot oil heater, identified as emission unit No. 9, rated at 1.96 MMBtu/hr using natural gas as back-up fuel, exhausting at one (1) stack, identified as SV2;

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.2.1 Particulate Emissions [326 IAC 6-2] [326 IAC 6.5-1-2]

- (a) Pursuant to 326 IAC 6.5-1-2(a), particulate emissions from the hot oil heater shall not exceed 0.03 grain per dry standard cubic foot when operating in Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo, or Wayne Counties.
- (b) Pursuant to 326 IAC 6-2-4, the particulate emissions from the hot oil heater shall be limited to 0.6 pounds per MMBtu heat input when operating in counties other than the counties listed in paragraph (a) above.

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Insignificant Activities

- (b) One (1) No. 2 distillate fuel oil storage tank, identified as Tank 11, with a maximum storage capacity of 12,000 gallons, exhausting at one (1) stack, identified as SV4;
- (c) One (1) alternative fuel oil storage tank, identified as Tank 66, with a maximum storage capacity of 15,000 gallons, approved for construction in 2008;
- (d) One (1) testing lab trailer; and
- (e) Paved and unpaved roads and parking lots with public access.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.3.1 FESOP and Minor PSD Limits for PM, PM10 and PM2.5 [326 IAC 2-8-4] [326 IAC 2-2]

Pursuant to 326 IAC 2-8, the Permittee shall sweep paved roads as needed and spray water on unpaved areas as needed in order to control PM, PM10 and PM2.5 emissions from paved and unpaved roads. Compliance with this limit, combined with the PM, PM10 and PM2.5 emissions from other units at this source, will render the requirements of 326 IAC 2-7 (Part 70 Permit Program), and 326 IAC 2-2 (PSD) not applicable.

D.3.2 Volatile Organic Liquid Storage Vessels [326 IAC 8-9]

Pursuant to 326 IAC 8-9-1(b), the No. 2 fuel oil storage tank (Tank 11) and the alternative fuel oil storage tank (Tank 66) are subject to the reporting and recordkeeping provisions of section 6(a) and 6(b) of this rule when the source is located in Clark or Floyd Counties.

SECTION E.1

NSPS REQUIREMENTS

Emissions Unit Description: Hot-mix Asphalt Plant

- (a) One (1) hot drum mix asphalt plant, constructed in 1987 (unless otherwise specified for specific units), approved for modification in 2012 to use steel slag, blast furnace slag and ground certified asbestos-free shingle in the aggregate mix, consisting of the following:
- (1) One (1) aggregate drum mix dryer, identified as emission unit No. 2, with a maximum capacity of 300 tons per hour, equipped with one (1) No. 2 distillate fuel oil fired aggregate dryer burner with a maximum rated capacity of 123 million (MM) British thermal units (Btu) per hour using natural gas, refinery blend fuel oil, No. 4 fuel oil, No. 5 fuel oil, No. 6 fuel oil, or waste oil as back-up fuels and one (1) cyclone and baghouse in series for air pollution control, exhausting at one (1) stack, identified as SV1;
 - (2) Material conveying and handling operations consisting of the following:
 - (A) One (1) drag slat conveyor, three (3) feeder conveyors, and one (1) screen;
 - (B) One (1) cold feed system consisting of four (4) compartments with a total aggregate holding capacity of 100 tons;
 - (C) One (1) Recycled Asphalt Pavement (RAP) feed bin with a maximum holding capacity of 25 tons; and
 - (D) One (1) Recycled Asphalt Ground Shingle feed bin with a maximum holding capacity of 25 tons.
 - (3) One (1) liquid asphalt storage tank, identified as Tank 10, constructed in 1979, with a maximum storage capacity of 25,000 gallons, exhausting at one (1) stack, identified as SV3;
 - (4) One (1) hot mix asphalt cement storage silo with a maximum storage capacity of 300 tons;
 - (5) Aggregate storage piles of stone, RAP, ground certified asbestos-free shingles, and steel slag and blast furnace slag, with a maximum storage capacity of 54,000 tons.

Above units are considered an affected source under 40 CFR 60, Subpart I.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

New Source Performance Standards (NSPS) Requirements [326 IAC 2-8-4(1)]

E.1.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

- (a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, except as otherwise specified in 40 CFR 60, Subpart I.

- (b) Pursuant to 40 CFR 60.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.1.2 New Source Performance Standards (NSPS) for Hot-mix Asphalt Facilities [40 CFR Part 60, Subpart I] [326 IAC 12]

The Permittee shall comply with the following provisions of 40 CFR Part 60, which are incorporated by reference as 326 IAC 12, except as otherwise specified in 40 CFR Part 60, Subpart I (included as Attachment B of this permit):

- (a) 40 CFR 60.90
- (b) 40 CFR 60.91
- (c) 40 CFR 60.92
- (d) 40 CFR 60.93

E.1.3 Testing Requirements

The Permittee shall perform the stack testing required under NSPS 40 CFR 60, Subpart I, utilizing methods as approved by the Commissioner to document compliance with Condition E.1.2. These tests shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

SECTION E.2

NESHAP REQUIREMENTS

Emissions Unit Description: Generator

- (3) One (1) low sulfur No. 2 distillate fuel oil fired reciprocating internal combustion generator, identified as emission unit 13, rated at 880 HP/hr, exhausting at one (1) stack, identified as SV5.

Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected facility.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

National Emission Standards for Hazardous Air Pollutants (NESHAPs) Requirements [326 IAC 2-8-4(1)]

E.2.1 General Provisions Relating to NESHAP [40 CFR Part 63, Subpart A] [326 IAC 20-1]

Pursuant to 40 CFR 63, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions for generator, which are incorporated by reference as 326 IAC 20-1, except as otherwise specified in 40 CFR 63, Subpart ZZZZ.

E.2.2 NESHAP for Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]

- (a) The existing generator, is subject to the requirements of the 40 CFR Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary reciprocating internal combustion engine (RICE), which are incorporated by reference as 326 IAC 20-82, except as otherwise specified in 40 CFR Part 63, Subpart ZZZZ (included as Attachment C of this permit) as follows:

E.2.3 Testing Requirements [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]

The Permittee shall perform the testing required under NESHAP 40 CFR 63, Subpart ZZZZ, utilizing methods as approved by the Commissioner to document compliance with Condition E.2.2 within 180 days after the initial use. (This initial testing is not required for this generator, if this unit had been previously tested and the test met all of the conditions in 40 CFR 63.6612 (b)(1) through (4).) These tests shall be repeated after every 8,760 hours of operation or at least once every three (3) years from the date of the last valid compliance demonstration, whichever comes first. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
CERTIFICATION**

Source Name: Brooks Construction Company, Inc.
Source Address: (Portable)
FESOP Permit No.: F 035-26262-03291

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

- Annual Compliance Certification Letter
- Test Result (specify)_____
- Report (specify)_____
- Notification (specify)_____
- Affidavit (specify)_____
- Other (specify)_____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: (317) 233-0178
Fax: (317) 233-6865**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
EMERGENCY OCCURRENCE REPORT**

Source Name: Brooks Construction Company, Inc.
Source Address: (Portable)
FESOP Permit No.: F 035-26262-03291

This form consists of 2 pages

Page 1 of 2

- | |
|--|
| <p><input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12)</p> <ul style="list-style-type: none">• The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and• The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16 |
|--|

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A

Page 2 of 2

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO ₂ , VOC, NO _x , CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

FESOP Quarterly Report

Source Name: Brooks Construction Company, Inc.
Source Address: (Portable)
FESOP Permit No.: F 035-26262-03291
Facility: Asphalt Plant
Parameter: Asphalt Production
Limit: The amount of asphalt processed shall not exceed 1,359,521 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE AND ENFORCEMENT BRANCH**

FESOP Quarterly Report

Source Name: Brooks Construction Company, Inc.
 Source Address: (Portable)
 FESOP Permit No.: F 035-26262-03291
 Facility: Dryer/Mixer Burner and Generator
 Parameter: Fuel & Slag Usage / SO₂, NO_x, HCl and CO_{2e} emissions
 Emission Limits: Sulfur dioxide (SO₂) emissions shall not exceed 94.65 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.14(a).
Nitrogen oxides (NO_x) emissions shall not exceed 97.77 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.14(b).
Hydrogen Chloride (HCl) emissions shall not exceed 9.90 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.14(c).
CO₂ equivalent (CO_{2e}) emissions shall not exceed 45,643.78 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.14(d).

Fuel & Slag Limits: When combusting only one type of fuel per twelve (12) consecutive month period in the dryer/mixer burner, in conjunction with the use of slag in the aggregate mix, fuel and slag usage shall not exceed the following:

Fuel and Slag (Units)	Usage Limits (Per 12 consecutive month period)
Natural gas (million cubic feet (MMCF))	732.47
No. 2 Distillate Fuel Oil (gallons)	2,011,134
No. 4 Fuel Oil (gallons)	909,494
No. 5 Fuel Oil (gallons)	909,494
No. 6 Fuel Oil (gallons)	909,494
Waste Oil (gallons)	750,000
No. 2 Fuel Oil in Generator (gallons)	120,000
Blast Furnace Slag (tons)	50,000
Steel Slag (tons)	679,761

QUARTER: _____ YEAR: _____

Month	Fuel Types / Slag (units)	Column 1	Column 2	Column 1 + Column 2	Sulfur Dioxide (SO ₂) Emissions (tons per 12 months)	Equation Results		
		Usage This Month	Usage Previous 11 Months	Usage 12 Month Total		Nitrogen Oxides (NO _x) Emissions (tons per 12 months)	Hydrogen Chloride (HCl) Emissions (tons per 12 months)	CO ₂ equivalent (CO ₂ e) Emissions (tons per 12 months)
Month 1	Natural gas (MMCF)							
	No. 2 Fuel Oil (gallons)							
	No. 4, 5, 6 Fuel Oils (gallons)							
	No. 2 Fuel Oil (gallons) in the generator							
	Waste Fuel Oil (gallons)							
	Blast Furnace Slag (tons)							
	Steel Furnace Slag (tons)							
Month 2	Natural gas (MMCF)							
	No. 2 Fuel Oil (gallons)							
	No. 4, 5, 6 Fuel Oils (gallons)							
	No. 2 Fuel Oil (gallons) in the generator							
	Waste Fuel Oil (gallons)							
	Blast Furnace Slag (tons)							
	Steel Furnace Slag (tons)							
Month 3	Natural gas (MMCF)							
	No. 2 Fuel Oil (gallons)							
	No. 4, 5, 6 Fuel Oils (gallons)							
	No. 2 Fuel Oil (gallons) in the generator							
	Waste Fuel Oil (gallons)							
	Blast Furnace Slag (tons)							
	Steel Furnace Slag (tons)							

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
 Deviation has been reported on: _____

Submitted by: _____
 Title / Position: _____
 Signature: _____
 Date: _____
 Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Brooks Construction Company, Inc.
Source Address: (Portable)
FESOP Permit No.: F 035-26262-03291

Months: _____ to _____ Year: _____

Page 1 of 2

<p>This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C- General Reporting. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".</p>	
<input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
<input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

**New Source Review and Federally Enforceable State
Operating Permit Renewal
OFFICE OF AIR QUALITY**

**Brooks Construction Company, Inc.
(Portable)**

ATTACHMENT A

ASPHALT PLANT SITE FUGITIVE DUST CONTROL PLAN

**Operation Permit No.: F 035-26262-03291
Significant Permit Revision No.: 015-32317-03291**

ASPHALT PLANT SITE FUGITIVE DUST CONTROL PLAN

Fugitive particulate matter emissions from paved roads, unpaved roads, and parking lots shall be controlled by one or more of the following methods:

Paved roads and parking lots:

- (1) cleaning by vacuum sweeping on an as needed basis (monthly at a minimum)
- (2) power brooming while wet either from rain or application of water.

Unpaved roads and parking lots:

- (1) paving with asphalt;
- (2) treating with emulsified asphalt;
- (3) watering;
- (4) double chip and seal the road surface.

Fugitive particulate matter emissions from aggregate stockpiles shall be controlled by one or more of the following methods on an as needed basis:

- (1) maintaining minimum size and number of stock piles of aggregate;
- (2) treating around the stockpile area with emulsified asphalt;
- (3) treating around the stockpile area with water;
- (4) treating the stockpiles with water.

Fugitive particulate matter emissions from outdoor conveying of aggregates shall be controlled by the following method on an as needed basis:

- (1) applying water at the feed and the intermediate points.

Fugitive particulate matter emissions from the transfer of aggregates shall be controlled by one of the following methods:

- (1) minimize the vehicular distance between transfer points;
- (2) enclose the transfer points;
- (3) apply water on transfer points on an as needed basis.

Fugitive particulate matter emissions from transportation of aggregate by truck, front end loader, etc. shall be controlled by one of the following methods:

- (1) tarping the aggregate hauling vehicles;
- (2) maintain vehicle bodies in a condition to prevent leakage;
- (3) spray the aggregates with water;
- (4) maintain a 10 MPH speed limit in the yard.

Fugitive particulate matter emissions from the loading and unloading of aggregate shall be controlled by one of the following methods:

- (1) reduce free fall distance to a minimum;
- (2) reduce the rate of discharge of the aggregate;
- (3) spray the aggregate with water on an as needed basis.

**New Source Review and Federally Enforceable State
Operating Permit Renewal
OFFICE OF AIR QUALITY**

**Brooks Construction Company, Inc.
(Portable)**

Attachment B

Title 40: Protection of Environment

[PART 60—NEW SOURCE PERFORMANCE STANDARDS](#)

**SUBPART I - STANDARDS OF PERFORMANCE
FOR HOT MIX ASPHALT FACILITIES**

**Operation Permit No.: F097-15740-00086
Significant Permit Revision No.: 097-32307-00086**

40 CFR 60, SUBPART I — STANDARDS OF PERFORMANCE FOR HOT MIX ASPHALT FACILITIES

§ 60.90 Applicability and designation of affected facility.

- (a) The affected facility to which the provisions of this subpart apply is each hot mix asphalt facility. For the purpose of this subpart, a hot mix asphalt facility is comprised only of any combination of the following: dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler, systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems.
- (b) Any facility under paragraph (a) of this section that commences construction or modification after June 11, 1973, is subject to the requirements of this subpart.

[42 FR 37936, July 25, 1977, as amended at 51 FR 12325, Apr. 10, 1986]

§ 60.91 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

- (a) *Hot mix asphalt facility* means any facility, as described in §60.90, used to manufacture hot mix asphalt by heating and drying and mixing with asphalt cements.

[51 FR 12325, Apr. 10, 1986]

§ 60.92 Standard for particulate matter.

- (a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall discharge or cause the discharge into the atmosphere from any affected facility any gases which:
 - (1) Contain particulate matter in excess of 90 mg/dscm (four hundredths (0.04) gr/dscf).
 - (2) Exhibit 20 percent opacity, or greater.

[39 FR 9314, Mar. 8, 1974, as amended at 40 FR 46259, Oct. 6, 1975]

§ 60.93 Test methods and procedures.

- (a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).
- (b) The owner or operator shall determine compliance with the particulate matter standards in §60.92 as follows:
 - (1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.90 dscm (31.8 dscf).
 - (2) Method 9 and the procedures in §60.11 shall be used to determine opacity.

[54 FR 6667, Feb. 14, 1989]

Reference

The US EPA Electronic Code of Federal Regulations - 40 CFR 60, Subpart I: Standards of Performance for Hot Mix Asphalt Facilities weblink:

<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=875648a88dd2168ac2096fe26e3e4c98&rqn=div6&view=text&node=40:6.0.1.1.1.20&idno=40>

**New Source Review and Federally Enforceable State
Operating Permit Renewal
OFFICE OF AIR QUALITY**

**Brooks Construction Company, Inc.
(Portable)**

Attachment C

Title 40: Protection of Environment

[PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS](#)

**Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for
Stationary Reciprocating Internal Combustion Engines**

**Operation Permit No.: F 035-26262-03291
Significant Permit Revision No.: 015-32317-03291**

[PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES](#)

Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Source: 69 FR 33506, June 15, 2004, unless otherwise noted.

What This Subpart Covers

§ 63.6580 What is the purpose of subpart ZZZZ?

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

[73 FR 3603, Jan. 18, 2008]

§ 63.6585 Am I subject to this subpart?

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

(a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

(b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.

(c) An area source of HAP emissions is a source that is not a major source.

(d) If you are an owner or operator of an area source subject to this subpart, your status as an entity subject to a standard or other requirements under this subpart does not subject you to the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.

(e) If you are an owner or operator of a stationary RICE used for national security purposes, you may be eligible to request an exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3603, Jan. 18, 2008]

§ 63.6590 What parts of my plant does this subpart cover?

This subpart applies to each affected source.

(a) *Affected source.* An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

(1) *Existing stationary RICE.*

(i) For stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before December 19, 2002.

(ii) For stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iii) For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iv) A change in ownership of an existing stationary RICE does not make that stationary RICE a new or reconstructed stationary RICE.

(2) *New stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(3) *Reconstructed stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(b) *Stationary RICE subject to limited requirements.* (1) An affected source which meets either of the criteria in paragraphs (b)(1)(i) through (ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of §63.6645(f).

(i) The stationary RICE is a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(ii) The stationary RICE is a new or reconstructed limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(2) A new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis must meet the initial notification requirements of §63.6645(f) and the requirements of §§63.6625(c), 63.6650(g), and 63.6655(c). These stationary RICE do not have to meet the emission limitations and operating limitations of this subpart.

(3) The following stationary RICE do not have to meet the requirements of this subpart and of subpart A of this part, including initial notification requirements:

(i) Existing spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(ii) Existing spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(iii) Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(iv) Existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(v) Existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(vi) Existing residential emergency stationary RICE located at an area source of HAP emissions;

(vii) Existing commercial emergency stationary RICE located at an area source of HAP emissions; or

(viii) Existing institutional emergency stationary RICE located at an area source of HAP emissions.

(c) *Stationary RICE subject to Regulations under 40 CFR Part 60.* An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

(1) A new or reconstructed stationary RICE located at an area source;

(2) A new or reconstructed 2SLB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(3) A new or reconstructed 4SLB stationary RICE with a site rating of less than 250 brake HP located at a major source of HAP emissions;

(4) A new or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(5) A new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(6) A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(7) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9674, Mar. 3, 2010; 75 FR 37733, June 30, 2010; 75 FR 51588, Aug. 20, 2010]

§ 63.6595 When do I have to comply with this subpart?

(a) *Affected sources.* (1) If you have an existing stationary RICE, excluding existing non-emergency CI stationary RICE, with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than June 15, 2007. If you have an existing non-emergency CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than May 3, 2013. If you have an existing stationary SI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary SI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than October 19, 2013.

(2) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart no later than August 16, 2004.

(3) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions after August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(4) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(5) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(6) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(7) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(b) *Area sources that become major sources.* If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, the compliance dates in paragraphs (b)(1) and (2) of this section apply to you.

(1) Any stationary RICE for which construction or reconstruction is commenced after the date when your area source becomes a major source of HAP must be in compliance with this subpart upon startup of your affected source.

(2) Any stationary RICE for which construction or reconstruction is commenced before your area source becomes a major source of HAP must be in compliance with the provisions of this subpart that are applicable to RICE located at major sources within 3 years after your area source becomes a major source of HAP.

(c) If you own or operate an affected source, you must meet the applicable notification requirements in §63.6645 and in 40 CFR part 63, subpart A.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

Emission and Operating Limitations

§ 63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing, new, or reconstructed spark ignition 4SRB stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 1a to this subpart and the operating limitations in Table 1b to this subpart which apply to you.

(b) If you own or operate a new or reconstructed 2SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, a new or reconstructed 4SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, or a new or reconstructed CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

(c) If you own or operate any of the following stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the emission limitations in Tables 1a, 2a, 2c, and 2d to this subpart or operating limitations in Tables 1b and 2b to this subpart: an existing 2SLB stationary RICE; an existing 4SLB stationary RICE; a stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis; an emergency stationary RICE; or a limited use stationary RICE.

(d) If you own or operate an existing non-emergency stationary CI RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010]

§ 63.6601 What emission limitations must I meet if I own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP and less than or equal to 500 brake HP located at a major source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart. If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at major source of HAP emissions manufactured on or after January 1, 2008, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

§ 63.6602 What emission limitations must I meet if I own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart which apply to you. Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

[75 FR 51589, Aug. 20, 2010]

§ 63.6603 What emission limitations and operating limitations must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 1b and Table 2b to this subpart that apply to you.

(b) If you own or operate an existing stationary non-emergency CI RICE greater than 300 HP located at area sources in areas of Alaska not accessible by the Federal Aid Highway System (FAHS) you do not have to meet the numerical CO emission limitations specified in Table 2d to this subpart. Existing stationary non-emergency CI RICE greater than 300 HP located at area sources in areas of Alaska not accessible by the FAHS must meet the management practices that are shown for stationary non-emergency CI RICE less than or equal to 300 HP in Table 2d to this subpart.

[75 FR 9675, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011]

§ 63.6604 What fuel requirements must I meet if I own or operate an existing stationary CI RICE?

If you own or operate an existing non-emergency, non-black start CI stationary RICE with a site rating of more than 300 brake HP with a displacement of less than 30 liters per cylinder that uses diesel fuel, you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel. Existing non-emergency CI stationary RICE located in Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or at area sources in areas of Alaska not accessible by the FAHS are exempt from the requirements of this section.

[75 FR 51589, Aug. 20, 2010]

General Compliance Requirements

§ 63.6605 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations and operating limitations in this subpart that apply to you at all times.

(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[75 FR 9675, Mar. 3, 2010]

Testing and Initial Compliance Requirements

§ 63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

If you own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct the initial performance test or other initial compliance demonstrations in Table 4 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).

(b) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must demonstrate initial compliance with either the proposed emission limitations or the promulgated emission limitations no later than February 10, 2005 or no later than 180 days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(c) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, and you chose to comply with the proposed emission limitations when demonstrating initial compliance, you must conduct a second performance test to demonstrate compliance with the

promulgated emission limitations by December 13, 2007 or after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(d) An owner or operator is not required to conduct an initial performance test on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (d)(1) through (5) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

(5) The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3605, Jan. 18, 2008]

§ 63.6611 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a new or reconstructed 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?

If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must conduct an initial performance test within 240 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions specified in Table 4 to this subpart, as appropriate.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 51589, Aug. 20, 2010]

§ 63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct any initial performance test or other initial compliance demonstration according to Tables 4 and 5 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).

(b) An owner or operator is not required to conduct an initial performance test on a unit for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (b)(1) through (4) of this section.

- (1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.
- (2) The test must not be older than 2 years.
- (3) The test must be reviewed and accepted by the Administrator.
- (4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

[75 FR 9676, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010]

§ 63.6615 When must I conduct subsequent performance tests?

If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of this subpart.

§ 63.6620 What performance tests and other procedures must I use?

- (a) You must conduct each performance test in Tables 3 and 4 of this subpart that applies to you.
- (b) Each performance test must be conducted according to the requirements that this subpart specifies in Table 4 to this subpart. If you own or operate a non-operational stationary RICE that is subject to performance testing, you do not need to start up the engine solely to conduct the performance test. Owners and operators of a non-operational engine can conduct the performance test when the engine is started up again.
- (c) [Reserved]
- (d) You must conduct three separate test runs for each performance test required in this section, as specified in §63.7(e)(3). Each test run must last at least 1 hour.
- (e)(1) You must use Equation 1 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \quad (\text{Eq. 1})$$

Where:

C_i = concentration of CO or formaldehyde at the control device inlet,

C_o = concentration of CO or formaldehyde at the control device outlet, and

R = percent reduction of CO or formaldehyde emissions.

- (2) You must normalize the carbon monoxide (CO) or formaldehyde concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO₂). If pollutant concentrations are to be corrected to 15 percent oxygen and CO₂ concentration is

measured in lieu of oxygen concentration measurement, a CO₂ correction factor is needed. Calculate the CO₂ correction factor as described in paragraphs (e)(2)(i) through (iii) of this section.

(i) Calculate the fuel-specific F_o value for the fuel burned during the test using values obtained from Method 19, section 5.2, and the following equation:

$$F_o = \frac{0.209 F_d}{F_c} \quad (\text{Eq. 2})$$

Where:

F_o = Fuel factor based on the ratio of oxygen volume to the ultimate CO₂ volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is oxygen, percent/100.

F_d = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm³ / J (dscf/10⁶ Btu).

F_c = Ratio of the volume of CO₂ produced to the gross calorific value of the fuel from Method 19, dsm³ / J (dscf/10⁶ Btu).

(ii) Calculate the CO₂ correction factor for correcting measurement data to 15 percent oxygen, as follows:

$$X_{CO_2} = \frac{5.9}{F_o} \quad (\text{Eq. 3})$$

Where:

X_{CO₂} = CO₂ correction factor, percent.

5.9 = 20.9 percent O₂ - 15 percent O₂, the defined O₂ correction value, percent.

(iii) Calculate the NO_x and SO₂ gas concentrations adjusted to 15 percent O₂ using CO₂ as follows:

$$C_{adj} = C_d \frac{X_{CO_2}}{\%CO_2} \quad (\text{Eq. 4})$$

Where:

%CO₂ = Measured CO₂ concentration measured, dry basis, percent.

(f) If you comply with the emission limitation to reduce CO and you are not using an oxidation catalyst, if you comply with the emission limitation to reduce formaldehyde and you are not using NSCR, or if you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you are not using an oxidation catalyst or NSCR, you must petition the Administrator for operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.

(g) If you petition the Administrator for approval of operating limitations, your petition must include the information described in paragraphs (g)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as operating limitations;

(2) A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters, and how limitations on these parameters will serve to limit HAP emissions;

(3) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(4) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(5) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(h) If you petition the Administrator for approval of no operating limitations, your petition must include the information described in paragraphs (h)(1) through (7) of this section.

(1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally (e.g., operator adjustment, automatic controller adjustment, etc.) or unintentionally (e.g., wear and tear, error, etc.) on a routine basis or over time;

(2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;

(3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;

(4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;

(5) For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;

(6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and

(7) A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

(i) The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test must be

clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9676, Mar. 3, 2010]

§ 63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?

(a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either oxygen or CO₂ at both the inlet and the outlet of the control device according to the requirements in paragraphs (a)(1) through (4) of this section.

(1) Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of 40 CFR part 60, appendix B.

(2) You must conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in §63.8 and according to the applicable performance specifications of 40 CFR part 60, appendix B as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.

(3) As specified in §63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in §63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO₂ concentration.

(b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in paragraphs (b)(1) through (5) of this section. For an affected source that is complying with the emission limitations and operating limitations on March 9, 2011, the requirements in paragraph (b) of this section are applicable September 6, 2011.

(1) You must prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraphs (b)(1)(i) through (v) of this section and in §63.8(d). As specified in §63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in paragraphs (b)(1) through (5) of this section in your site-specific monitoring plan.

(i) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;

(ii) Sampling interface (e.g., thermocouple) location such that the monitoring system will provide representative measurements;

(iii) Equipment performance evaluations, system accuracy audits, or other audit procedures;

(iv) Ongoing operation and maintenance procedures in accordance with provisions in §63.8(c)(1) and (c)(3); and

(v) Ongoing reporting and recordkeeping procedures in accordance with provisions in §63.10(c), (e)(1), and (e)(2)(i).

(2) You must install, operate, and maintain each CPMS in continuous operation according to the procedures in your site-specific monitoring plan.

(3) The CPMS must collect data at least once every 15 minutes (see also §63.6635).

(4) For a CPMS for measuring temperature range, the temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger.

(5) You must conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in your site-specific monitoring plan at least annually.

(6) You must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must monitor and record your fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel. In addition, you must operate your stationary RICE in a manner which reasonably minimizes HAP emissions.

(d) If you are operating a new or reconstructed emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter prior to the startup of the engine.

(e) If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:

(1) An existing stationary RICE with a site rating of less than 100 HP located at a major source of HAP emissions;

(2) An existing emergency or black start stationary RICE with a site rating of less than or equal to 500 HP located at a major source of HAP emissions;

(3) An existing emergency or black start stationary RICE located at an area source of HAP emissions;

(4) An existing non-emergency, non-black start stationary CI RICE with a site rating less than or equal to 300 HP located at an area source of HAP emissions;

(5) An existing non-emergency, non-black start 2SLB stationary RICE located at an area source of HAP emissions;

(6) An existing non-emergency, non-black start landfill or digester gas stationary RICE located at an area source of HAP emissions;

(7) An existing non-emergency, non-black start 4SLB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(8) An existing non-emergency, non-black start 4SRB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(9) An existing, non-emergency, non-black start 4SLB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year; and

(10) An existing, non-emergency, non-black start 4SRB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year.

(f) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed.

(g) If you own or operate an existing non-emergency, non-black start CI engine greater than or equal to 300 HP that is not equipped with a closed crankcase ventilation system, you must comply with either paragraph (g)(1) or paragraph (g)(2) of this section. Owners and operators must follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request the Administrator to approve different maintenance requirements that are as protective as manufacturer requirements. Existing CI engines located at area sources in areas of Alaska not accessible by the FAHS do not have to meet the requirements of paragraph (g) of this section.

(1) Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere, or

(2) Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates, and metals.

(h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.

(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(j) If you own or operate a stationary SI engine that is subject to the work, operation or management practices in items 6, 7, or 8 of Table 2c to this subpart or in items 5, 6, 7, 9, or 11 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change

requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011]

§ 63.6630 How do I demonstrate initial compliance with the emission limitations and operating limitations?

- (a) You must demonstrate initial compliance with each emission and operating limitation that applies to you according to Table 5 of this subpart.
- (b) During the initial performance test, you must establish each operating limitation in Tables 1b and 2b of this subpart that applies to you.
- (c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.6645.

Continuous Compliance Requirements

§ 63.6635 How do I monitor and collect data to demonstrate continuous compliance?

- (a) If you must comply with emission and operating limitations, you must monitor and collect data according to this section.
- (b) Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, you must monitor continuously at all times that the stationary RICE is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.
- (c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods.

[69 FR 33506, June 15, 2004, as amended at 76 FR 12867, Mar. 9, 2011]

§ 63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations?

(a) You must demonstrate continuous compliance with each emission limitation and operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

(c) [Reserved]

(d) For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in 40 CFR 94.11(a).

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.

(f) *Requirements for emergency stationary RICE.* (1) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that was installed on or after June 12, 2006, or an existing emergency stationary RICE located at an area source of HAP emissions, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1)(i) through (iii) of this section. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1)(i) through (iii) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1)(i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary RICE in emergency situations.

(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness

testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.

(iii) You may operate your emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph (f)(1)(iii), as long as the power provided by the financial arrangement is limited to emergency power.

(2) If you own or operate an emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that was installed prior to June 12, 2006, you must operate the engine according to the conditions described in paragraphs (f)(2)(i) through (iii) of this section. If you do not operate the engine according to the requirements in paragraphs (f)(2)(i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary RICE in emergency situations.

(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by the manufacturer, the vendor, or the insurance company associated with the engine. Required testing of such units should be minimized, but there is no time limit on the use of emergency stationary RICE in emergency situations and for routine testing and maintenance.

(iii) You may operate your emergency stationary RICE for an additional 50 hours per year in non-emergency situations. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010]

Notifications, Reports, and Records

§ 63.6645 What notifications must I submit and when?

(a) You must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified if you own or operate any of the following;

(1) An existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

- (2) An existing stationary RICE located at an area source of HAP emissions.
- (3) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.
- (4) A new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 HP located at a major source of HAP emissions.
- (5) This requirement does not apply if you own or operate an existing stationary RICE less than 100 HP, an existing stationary emergency RICE, or an existing stationary RICE that is not subject to any numerical emission standards.
- (b) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart, you must submit an Initial Notification not later than December 13, 2004.
- (c) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.
- (d) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart and you are required to submit an initial notification, you must submit an Initial Notification not later than July 16, 2008.
- (e) If you start up your new or reconstructed stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions on or after March 18, 2008 and you are required to submit an initial notification, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.
- (f) If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this subpart, in accordance with §63.6590(b), your notification should include the information in §63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary RICE if it has a site rating of more than 500 brake HP located at a major source of HAP emissions).
- (g) If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1).
- (h) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).
- (1) For each initial compliance demonstration required in Table 5 to this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.
- (2) For each initial compliance demonstration required in Table 5 to this subpart that includes a performance test conducted according to the requirements in Table 3 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to §63.10(d)(2).

[73 FR 3606, Jan. 18, 2008, as amended at 75 FR 9677, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010]

§ 63.6650 What reports must I submit and when?

(a) You must submit each report in Table 7 of this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date in Table 7 of this subpart and according to the requirements in paragraphs (b)(1) through (b)(9) of this section.

(1) For semiannual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.6595.

(2) For semiannual Compliance reports, the first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.6595.

(3) For semiannual Compliance reports, each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) For semiannual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each stationary RICE that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6 (a)(3)(iii)(A), you may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (b)(4) of this section.

(6) For annual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on December 31.

(7) For annual Compliance reports, the first Compliance report must be postmarked or delivered no later than January 31 following the end of the first calendar year after the compliance date that is specified for your affected source in §63.6595.

(8) For annual Compliance reports, each subsequent Compliance report must cover the annual reporting period from January 1 through December 31.

(9) For annual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than January 31.

(c) The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §63.6605(b), including actions taken to correct a malfunction.

(5) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.

(6) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(d) For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the emission or operating limitations in this subpart, the Compliance report must contain the information in paragraphs (c)(1) through (4) of this section and the information in paragraphs (d)(1) and (2) of this section.

(1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from an emission or operating limitation occurring for a stationary RICE where you are using a CMS to comply with the emission and operating limitations in this subpart, you must include information in paragraphs (c)(1) through (4) and (e)(1) through (12) of this section.

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in §63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.

(9) A brief description of the stationary RICE.

(10) A brief description of the CMS.

(11) The date of the latest CMS certification or audit.

(12) A description of any changes in CMS, processes, or controls since the last reporting period.

(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

(g) If you are operating as a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must submit an annual report according to Table 7 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (b)(1) through (b)(5) of this section. You must report the data specified in (g)(1) through (g)(3) of this section.

(1) Fuel flow rate of each fuel and the heating values that were used in your calculations. You must also demonstrate that the percentage of heat input provided by landfill gas or digester gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis.

(2) The operating limits provided in your federally enforceable permit, and any deviations from these limits.

(3) Any problems or errors suspected with the meters.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9677, Mar. 3, 2010]

§ 63.6655 What records must I keep?

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) and (c) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in §63.10(b)(2)(xiv).

(2) Records of the occurrence and duration of each malfunction of operation (*i.e.*, process equipment) or the air pollution control and monitoring equipment.

(3) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(b) For each CEMS or CPMS, you must keep the records listed in paragraphs (b)(1) through (3) of this section.

(1) Records described in §63.10(b)(2)(vi) through (xi).

(2) Previous (*i.e.*, superseded) versions of the performance evaluation plan as required in §63.8(d)(3).

(3) Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in §63.8(f)(6)(i), if applicable.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must keep the records of your daily fuel usage monitors.

(d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;

(1) An existing stationary RICE with a site rating of less than 100 brake HP located at a major source of HAP emissions.

(2) An existing stationary emergency RICE.

(3) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart.

(f) If you own or operate any of the stationary RICE in paragraphs (f)(1) or (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engines are used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response.

(1) An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines.

(2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010]

§ 63.6660 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1).

(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1).

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010]

Other Requirements and Information

§ 63.6665 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with any of the requirements of the General Provisions specified in Table 8: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing stationary RICE that combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an existing emergency stationary RICE, or an existing limited use stationary RICE. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in the General Provisions specified in Table 8 except for the initial notification requirements: A new stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new emergency stationary RICE, or a new limited use stationary RICE.

[75 FR 9678, Mar. 3, 2010]

§ 63.6670 Who implements and enforces this subpart?

(a) This subpart is implemented and enforced by the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out whether this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are:

(1) Approval of alternatives to the non-opacity emission limitations and operating limitations in §63.6600 under §63.6(g).

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

(5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in §63.6610(b).

§ 63.6675 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA); in 40 CFR 63.2, the General Provisions of this part; and in this section as follows:

Area source means any stationary source of HAP that is not a major source as defined in part 63.

Associated equipment as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary RICE.

Black start engine means an engine whose only purpose is to start up a combustion turbine.

CAA means the Clean Air Act (42 U.S.C. 7401 *et seq.*, as amended by Public Law 101–549, 104 Stat. 2399).

Commercial emergency stationary RICE means an emergency stationary RICE used in commercial establishments such as office buildings, hotels, stores, telecommunications facilities, restaurants, financial institutions such as banks, doctor's offices, and sports and performing arts facilities.

Compression ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

Custody transfer means the transfer of hydrocarbon liquids or natural gas: After processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless of whether or not such failure is permitted by this subpart.

(4) Fails to satisfy the general duty to minimize emissions established by §63.6(e)(1)(i).

Diesel engine means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition. This process is also known as compression ignition.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2. Diesel fuel also includes any non-distillate fuel with comparable physical and chemical properties (e.g. biodiesel) that is suitable for use in compression ignition engines.

Digester gas means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO₂.

Dual-fuel engine means any stationary RICE in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel.

Emergency stationary RICE means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, *etc.* Stationary RICE used for peak shaving are not considered emergency stationary RICE. Stationary RICE used to supply power to an electric grid or that supply non-emergency power as part of a financial arrangement with another entity are not considered to be emergency engines, except as permitted under §63.6640(f). All emergency stationary RICE must comply with the requirements specified in §63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in §63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

Engine startup means the time from initial start until applied load and engine and associated equipment reaches steady state or normal operation. For stationary engine with catalytic controls, engine startup means the time from initial start until applied load and engine and associated equipment, including the catalyst, reaches steady state or normal operation.

Four-stroke engine means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

Gaseous fuel means a material used for combustion which is in the gaseous state at standard atmospheric temperature and pressure conditions.

Gasoline means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.

Glycol dehydration unit means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes "rich" glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The "lean" glycol is then recycled.

Hazardous air pollutants (HAP) means any air pollutants listed in or pursuant to section 112(b) of the CAA.

Institutional emergency stationary RICE means an emergency stationary RICE used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations.

ISO standard day conditions means 288 degrees Kelvin (15 degrees Celsius), 60 percent relative humidity and 101.3 kilopascals pressure.

Landfill gas means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO₂.

Lean burn engine means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

Limited use stationary RICE means any stationary RICE that operates less than 100 hours per year.

Liquefied petroleum gas means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining of natural gas production.

Liquid fuel means any fuel in liquid form at standard temperature and pressure, including but not limited to diesel, residual/crude oil, kerosene/naphtha (jet fuel), and gasoline.

Major Source, as used in this subpart, shall have the same meaning as in §63.2, except that:

(1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;

(2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated;

(3) For production field facilities, only HAP emissions from glycol dehydration units, storage vessel with the potential for flash emissions, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination; and

(4) Emissions from processes, operations, and equipment that are not part of the same natural gas transmission and storage facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Natural gas means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.

Non-selective catalytic reduction (NSCR) means an add-on catalytic nitrogen oxides (NO_x) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, NO_x, CO, and volatile organic compounds (VOC) into CO₂, nitrogen, and water.

Oil and gas production facility as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded (*i.e.*, remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.

Oxidation catalyst means an add-on catalytic control device that controls CO and VOC by oxidation.

Peaking unit or engine means any standby engine intended for use during periods of high demand that are not emergencies.

Percent load means the fractional power of an engine compared to its maximum manufacturer's design capacity at engine site conditions. Percent load may range between 0 percent to above 100 percent.

Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. For oil and natural gas production facilities subject to subpart HH of this part, the potential to emit provisions in §63.760(a) may be used. For natural gas transmission and storage facilities subject to subpart HHH of this part, the maximum annual facility gas throughput for storage facilities may be determined according to §63.1270(a)(1) and the maximum annual throughput for transmission facilities may be determined according to §63.1270(a)(2).

Production field facility means those oil and gas production facilities located prior to the point of custody transfer.

Production well means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C₃H₈.

Residential emergency stationary RICE means an emergency stationary RICE used in residential establishments such as homes or apartment buildings.

Responsible official means responsible official as defined in 40 CFR 70.2.

Rich burn engine means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to December 19, 2002 with passive emission control technology for NO_x (such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

Site-rated HP means the maximum manufacturer's design capacity at engine site conditions.

Spark ignition means relating to either: A gasoline-fueled engine; or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

Stationary reciprocating internal combustion engine (RICE) means any reciprocating internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

Stationary RICE test cell/stand means an engine test cell/stand, as defined in subpart P P P P P of this part, that tests stationary RICE.

Stoichiometric means the theoretical air-to-fuel ratio required for complete combustion.

Storage vessel with the potential for flash emissions means any storage vessel that contains a hydrocarbon liquid with a stock tank gas-to-oil ratio equal to or greater than 0.31 cubic meters per liter and an American Petroleum Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

Subpart means 40 CFR part 63, subpart ZZZZ.

Surface site means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

Two-stroke engine means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3607, Jan. 18, 2008; 75 FR 9679, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 76 FR 12867, Mar. 9, 2011]

Table 1ato Subpart ZZZZ of Part 63—Emission Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations at 100 percent load plus or minus 10 percent for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 4SRB stationary RICE	a. Reduce formaldehyde emissions by 76 percent or more. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may reduce formaldehyde emissions by 75 percent or more until June 15, 2007 or	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. ¹
	b. Limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O ₂	

¹Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9679, Mar. 3, 2010, as amended at 75 FR 51592, Aug. 20, 2010]

Table 1bto Subpart ZZZZ of Part 63—Operating Limitations for Existing, New, and Reconstructed Spark Ignition 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions and Existing Spark Ignition 4SRB Stationary RICE >500 HP Located at an Area Source of HAP Emissions

As stated in §§63.6600, 63.6603, 63.6630 and 63.6640, you must comply with the following operating limitations for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions and existing 4SRB stationary RICE >500 HP located at an area source of HAP emissions that operate more than 24 hours per calendar year:

For each . . .	You must meet the following operating limitation . . .
1. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O ₂ and using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust	a. Maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst measured during the initial performance test; and b. Maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 750 °F and less than or equal to 1250 °F.

to 2.7 ppmvd or less at 15 percent O ₂ and using NSCR.	
<p>2. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and not using NSCR; or</p> <p>4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O₂ and not using NSCR; or</p> <p>4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd or less at 15 percent O₂ and not using NSCR.</p>	Comply with any operating limitations approved by the Administrator.

[76 FR 12867, Mar. 9, 2011]

Table 2ato Subpart ZZZZ of Part 63—Emission Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations for new and reconstructed lean burn and new and reconstructed compression ignition stationary RICE at 100 percent load plus or minus 10 percent:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 2SLB stationary RICE	a. Reduce CO emissions by 58 percent or more; or b. Limit concentration of formaldehyde in the stationary RICE exhaust to 12 ppmvd or less at 15 percent O ₂ . If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may limit concentration of formaldehyde to 17 ppmvd or less at 15 percent O ₂ until June 15, 2007	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. ¹
2. 4SLB stationary RICE	a. Reduce CO emissions by 93 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less at 15 percent O ₂	
3. CI stationary RICE	a. Reduce CO emissions by 70 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O ₂	

¹Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9680, Mar. 3, 2010]

Table 2bto Subpart ZZZZ of Part 63— Operating Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP Located at a Major Source of HAP Emissions, New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions, Existing Compression Ignition Stationary RICE >500 HP, and Existing 4SLB Stationary RICE >500 HP Located at an Area Source of HAP Emissions

As stated in §§63.6600, 63.6601, 63.6603, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed 2SLB and compression ignition stationary RICE located at a major source of HAP emissions; new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions; existing compression ignition stationary RICE >500 HP; and existing 4SLB stationary RICE >500 HP located at an area source of HAP emissions that operate more than 24 hours per calendar year:

For each . . .	You must meet the following operating limitation . . .
1. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and using an oxidation catalyst; or 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of CO in the stationary RICE exhaust and using an oxidation catalyst	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F. ¹
2. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and not using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst; or 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of CO in the stationary RICE exhaust and not using an oxidation catalyst	Comply with any operating limitations approved by the Administrator.

¹Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(g) for a different temperature range.

[75 FR 51593, Aug. 20, 2010, as amended at 76 FR 12867, Mar. 9, 2011]

Table 2cto Subpart ZZZZ of Part 63—Requirements for Existing Compression Ignition Stationary RICE Located at a Major Source of HAP Emissions and Existing Spark Ignition Stationary RICE ≤500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600, 63.6602, and 63.6640, you must comply with the following requirements for existing compression ignition stationary RICE located at a major source of HAP emissions and existing spark ignition stationary RICE ≤500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Emergency stationary CI RICE and black start stationary CI RICE. ¹	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; ² b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. ³	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply. ³
2. Non-Emergency, non-black start stationary CI RICE <100 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first; ²	
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. ³	
3. Non-Emergency, non-black start CI stationary RICE 100≤HP≤300 HP	Limit concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O ₂	
4. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd or less at 15 percent O ₂ ; or	
	b. Reduce CO emissions by 70 percent or more.	
5. Non-Emergency, non-black start stationary CI RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd or less at 15	

	percent O ₂ ; or	
	b. Reduce CO emissions by 70 percent or more.	
6. Emergency stationary SI RICE and black start stationary SI RICE. ¹	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; ²	
	b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. ³	
7. Non-Emergency, non-black start stationary SI RICE <100 HP that are not 2SLB stationary RICE	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; ²	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary. ³	
8. Non-Emergency, non-black start 2SLB stationary SI RICE <100 HP	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first; ²	
	b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first;	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary. ³	
9. Non-emergency, non-black start 2SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 225 ppmvd or less at 15 percent O ₂	
10. Non-emergency, non-black start 4SLB	Limit concentration of CO in the stationary RICE exhaust to	

stationary RICE 100≤HP≤500	47 ppmvd or less at 15 percent O ₂	
11. Non-emergency, non-black start 4SRB stationary RICE 100≤HP≤500	Limit concentration of formaldehyde in the stationary RICE exhaust to 10.3 ppmvd or less at 15 percent O ₂	
12. Non-emergency, non-black start landfill or digester gas-fired stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 177 ppmvd or less at 15 percent O ₂	

¹If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

²Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement in Table 2c of this subpart.

³Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 51593, Aug. 20, 2010]

Table 2dto Subpart ZZZZ of Part 63— Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in §§63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Non-Emergency, non-black start CI stationary RICE ≤300 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first; ¹	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first;	

	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
2. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd at 15 percent O ₂ ; or	
	b. Reduce CO emissions by 70 percent or more.	
3. Non-Emergency, non-black start CI stationary RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd at 15 percent O ₂ ; or	
	b. Reduce CO emissions by 70 percent or more.	
4. Emergency stationary CI RICE and black start stationary CI RICE. ²	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; ¹	
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
5. Emergency stationary SI RICE; black start stationary SI RICE; non-emergency, non-black start 4SLB stationary RICE >500 HP that operate 24 hours or less per calendar year; non-emergency, non-black start 4SRB stationary RICE >500 HP that operate 24 hours or less per calendar year. ²	a. Change oil and filter every 500 hours of operation or annually, whichever comes first; ¹ b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first; and c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	

6. Non-emergency, non-black start 2SLB stationary RICE	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first; ¹	
	b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.	
7. Non-emergency, non-black start 4SLB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; ¹	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
8. Non-emergency, non-black start 4SLB stationary RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd at 15 percent O ₂ ; or	
	b. Reduce CO emissions by 93 percent or more.	
9. Non-emergency, non-black start 4SRB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; ¹	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually,	

	whichever comes first, and replace as necessary.	
10. Non-emergency, non-black start 4SRB stationary RICE >500 HP	a. Limit concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd at 15 percent O ₂ ; or	
	b. Reduce formaldehyde emissions by 76 percent or more.	
11. Non-emergency, non-black start landfill or digester gas-fired stationary RICE	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first; ¹	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	

¹Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement in Table 2d of this subpart.

²If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

[75 FR 51595, Aug. 20, 2010]

Table 3 to Subpart ZZZZ of Part 63—Subsequent Performance Tests

As stated in §§63.6615 and 63.6620, you must comply with the following subsequent performance test requirements:

For each . . .	Complying with the requirement to . . .	You must . . .
1. New or reconstructed 2SLB stationary RICE with a	Reduce CO	Conduct subsequent

brake horsepower >500 located at major sources; new or reconstructed 4SLB stationary RICE with a brake horsepower ≥ 250 located at major sources; and new or reconstructed CI stationary RICE with a brake horsepower >500 located at major sources	emissions and not using a CEMS	performance tests semiannually. ¹
2. 4SRB stationary RICE with a brake horsepower $\geq 5,000$ located at major sources	Reduce formaldehyde emissions	Conduct subsequent performance tests semiannually. ¹
3. Stationary RICE with a brake horsepower >500 located at major sources and new or reconstructed 4SLB stationary RICE with a brake horsepower $250 \leq HP \leq 500$ located at major sources	Limit the concentration of formaldehyde in the stationary RICE exhaust	Conduct subsequent performance tests semiannually. ¹
4. Existing non-emergency, non-black start CI stationary RICE with a brake horsepower >500 that are not limited use stationary RICE; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE located at an area source of HAP emissions with a brake horsepower >500 that are operated more than 24 hours per calendar year that are not limited use stationary RICE	Limit or reduce CO or formaldehyde emissions	Conduct subsequent performance tests every 8,760 hrs. or 3 years, whichever comes first.
5. Existing non-emergency, non-black start CI stationary RICE with a brake horsepower >500 that are limited use stationary RICE; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE located at an area source of HAP emissions with a brake horsepower >500 that are operated more than 24 hours per calendar year and are limited use stationary RICE	Limit or reduce CO or formaldehyde emissions	Conduct subsequent performance tests every 8,760 hrs. or 5 years, whichever comes first.

¹After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[75 FR 51596, Aug. 20, 2010]

Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests

As stated in §§63.6610, 63.6611, 63.6612, 63.6620, and 63.6640, you must comply with the following requirements for performance tests for stationary RICE:

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
1. 2SLB, 4SLB, and CI stationary RICE	a. Reduce CO emissions	i. Measure the O ₂ at the inlet and outlet of the control device; and	(1) Portable CO and O ₂ analyzer	(a) Using ASTM D6522–00 (2005) ^a (incorporated by reference, see §63.14). Measurements to determine O ₂ must be made at the same time as the measurements

				for CO concentration.
		ii. Measure the CO at the inlet and the outlet of the control device	(1) Portable CO and O ₂ analyzer	(a) Using ASTM D6522–00 (2005) ^{ab} (incorporated by reference, see §63.14) or Method 10 of 40 CFR appendix A. The CO concentration must be at 15 percent O ₂ , dry basis.
2. 4SRB stationary RICE	a. Reduce formaldehyde emissions	i. Select the sampling port location and the number of traverse points; and	(1) Method 1 or 1A of 40 CFR part 60, appendix A §63.7(d)(1)(i)	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O ₂ at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522–00m (2005)	(a) Measurements to determine O ₂ concentration must be made at the same time as the measurements for formaldehyde concentration.
		iii. Measure moisture content at the inlet and outlet of the control device; and	(1) Method 4 of 40 CFR part 60, appendix A, or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.
		iv. Measure formaldehyde at the inlet and the outlet of the control device	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348–03, ^c provided in ASTM D6348–03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
3. Stationary RICE	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. Select the sampling port location and the number of traverse points; and	(1) Method 1 or 1A of 40 CFR part 60, appendix A §63.7(d)(1)(i)	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O ₂ concentration of the stationary RICE exhaust at the sampling port location; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522–00 (2005)	(a) Measurements to determine O ₂ concentration must be made at the same time and location as the measurements for formaldehyde concentration.
		iii. Measure moisture content of the stationary RICE	(1) Method 4 of 40 CFR part 60, appendix A, or Test Method 320 of 40	(a) Measurements to determine moisture content must be made at the same

		exhaust at the sampling port location; and	CFR part 63, appendix A, or ASTM D 6348–03	time and location as the measurements for formaldehyde concentration.
		iv. Measure formaldehyde at the exhaust of the stationary RICE; or	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348–03, ^c provided in ASTM D6348–03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
		v. Measure CO at the exhaust of the stationary RICE	(1) Method 10 of 40 CFR part 60, appendix A, ASTM Method D6522–00 (2005), ^a Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03	(a) CO Concentration must be at 15 percent O ₂ , dry basis. Results of this test consist of the average of the three 1-hour longer runs.

^aYou may also use Methods 3A and 10 as options to ASTM–D6522–00 (2005). You may obtain a copy of ASTM–D6522–00 (2005) from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106. ASTM–D6522–00 (2005) may be used to test both CI and SI stationary RICE.

^bYou may also use Method 320 of 40 CFR part 63, appendix A, or ASTM D6348–03.

^cYou may obtain a copy of ASTM–D6348–03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[75 FR 51597, Aug. 20, 2010]

Table 5 to Subpart ZZZZ of Part 63—Initial Compliance With Emission Limitations and Operating Limitations

As stated in §§63.6612, 63.6625 and 63.6630, you must initially comply with the emission and operating limitations as required by the following:

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP	a. Reduce CO emissions and using oxidation catalyst, and using a CPMS	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and iii. You have recorded the catalyst

<p>located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year</p>		<p>pressure drop and catalyst inlet temperature during the initial performance test.</p>
<p>2. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year</p>	<p>a. Limit the concentration of CO, using oxidation catalyst, and using a CPMS</p>	<p>i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.</p>
<p>3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year</p>	<p>a. Reduce CO emissions and not using oxidation catalyst</p>	<p>i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.</p>
<p>4. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year</p>	<p>a. Limit the concentration of CO, and not using oxidation catalyst</p>	<p>i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.</p>
<p>5. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and</p>	<p>a. Reduce CO emissions, and using a CEMS</p>	<p>i. You have installed a CEMS to continuously monitor CO and either O₂ or CO₂ at both the inlet and outlet of the oxidation catalyst according to the requirements in §63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and iii. The average reduction of CO</p>

<p>existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year</p>		<p>calculated using §63.6620 equals or exceeds the required percent reduction. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average percent reduction achieved during the 4-hour period.</p>
<p>6. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP located at an area source of HAP, and existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year</p>	<p>a. Limit the concentration of CO, and using a CEMS</p>	<p>i. You have installed a CEMS to continuously monitor CO and either O₂ or CO₂ at the outlet of the oxidation catalyst according to the requirements in §63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and</p>
		<p>iii. The average concentration of CO calculated using §63.6620 is less than or equal to the CO emission limitation. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average concentration measured during the 4-hour period.</p>
<p>7. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year</p>	<p>a. Reduce formaldehyde emissions and using NSCR</p>	<p>i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and</p>
		<p>iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.</p>
<p>8. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year</p>	<p>a. Reduce formaldehyde emissions and not using NSCR</p>	<p>i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and</p>
		<p>iii. You have recorded the approved operating parameters (if any) during the initial performance test.</p>

<p>9. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year</p>	<p>a. Limit the concentration of formaldehyde and not using NSCR</p>	<p>i. The average formaldehyde concentration determined from the initial performance test is less than or equal to the formaldehyde emission limitation; and</p>
		<p>ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and</p>
		<p>iii. You have recorded the approved operating parameters (if any) during the initial performance test.</p>
<p>10. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE $250 \leq \text{HP} \leq 500$ located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP</p>	<p>a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR</p>	<p>i. The average formaldehyde concentration, corrected to 15 percent O₂, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and</p>
		<p>iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.</p>
<p>11. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE $250 \leq \text{HP} \leq 500$ located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP</p>	<p>a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR</p>	<p>i. The average formaldehyde concentration, corrected to 15 percent O₂, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and</p>
		<p>iii. You have recorded the approved operating parameters (if any) during the initial performance test.</p>
<p>12. Existing non-emergency stationary RICE $100 \leq \text{HP} \leq 500$ located at a major source of HAP, and existing non-emergency stationary CI RICE $300 < \text{HP} \leq 500$ located at an area source of HAP</p>	<p>a. Reduce CO or formaldehyde emissions</p>	<p>i. The average reduction of emissions of CO or formaldehyde, as applicable determined from the initial performance test is equal to or greater than the required CO or formaldehyde, as applicable, percent reduction.</p>
<p>13. Existing non-emergency stationary RICE $100 \leq \text{HP} \leq 500$ located at a major source of HAP, and existing non-emergency stationary CI RICE $300 < \text{HP} \leq 500$ located at an area source of</p>	<p>a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust</p>	<p>i. The average formaldehyde or CO concentration, as applicable, corrected to 15 percent O₂, dry basis, from the three test runs is less than or equal to the formaldehyde or CO emission</p>

HAP		limitation, as applicable.
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[76 FR 12867, Mar. 9, 2011]

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, Operating Limitations, Work Practices, and Management Practices

As stated in §63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved; ^a and ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
2. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and not using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved; ^a and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, new or	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using a CEMS	i. Collecting the monitoring data according to §63.6625(a), reducing the measurements to 1-hour averages, calculating the percent reduction or concentration of CO emissions according to §63.6620; and

<p>reconstructed non-emergency stationary CI RICE >500 HP located at a major source of HAP, existing non-emergency stationary CI RICE >500 HP, existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are operated more than 24 hours per calendar year</p>		<p>ii. Demonstrating that the catalyst achieves the required percent reduction of CO emissions over the 4-hour averaging period, or that the emission remain at or below the CO concentration limit; and iii. Conducting an annual RATA of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B, as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.</p>
<p>4. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP</p>	<p>a. Reduce formaldehyde emissions and using NSCR</p>	<p>i. Collecting the catalyst inlet temperature data according to §63.6625(b); and</p>
		<p>ii. Reducing these data to 4-hour rolling averages; and</p>
		<p>iii. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and</p>
		<p>iv. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.</p>
<p>5. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP</p>	<p>a. Reduce formaldehyde emissions and not using NSCR</p>	<p>i. Collecting the approved operating parameter (if any) data according to §63.6625(b); and ii. Reducing these data to 4-hour rolling averages; and</p>
		<p>iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.</p>
<p>6. Non-emergency 4SRB stationary RICE with a brake HP ≥5,000 located at a major source of HAP</p>	<p>a. Reduce formaldehyde emissions</p>	<p>Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction is achieved.^a</p>
<p>7. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250 ≤HP≤500 located at a major source of HAP</p>	<p>a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR</p>	<p>i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit;^aand ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and</p>
		<p>iii. Reducing these data to 4-hour</p>

		rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
8. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250 ≤HP≤500 located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit, ^a and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
9. Existing emergency and black start stationary RICE ≤500 HP located at a major source of HAP, existing non-emergency stationary RICE <100 HP located at a major source of HAP, existing emergency and black start stationary RICE located at an area source of HAP, existing non-emergency stationary CI RICE ≤300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency landfill or digester gas stationary SI RICE located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate 24 hours or less per calendar year	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
10. Existing stationary CI RICE >500 HP that are not limited use stationary RICE, and existing 4SLB and 4SRB stationary	a. Reduce CO or formaldehyde emissions, or limit the concentration	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde,

<p>RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year and are not limited use stationary RICE</p>	<p>of formaldehyde or CO in the stationary RICE exhaust, and using oxidation catalyst or NSCR</p>	<p>as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and</p>
		<p>ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and</p>
		<p>iii. Reducing these data to 4-hour rolling averages; and</p>
		<p>iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and</p>
		<p>v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.</p>
<p>11. Existing stationary CI RICE >500 HP that are not limited use stationary RICE, and existing 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year and are not limited use stationary RICE</p>	<p>a. Reduce CO or formaldehyde emissions, or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and not using oxidation catalyst or NSCR</p>	<p>i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and</p>
		<p>ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and</p>
		<p>iii. Reducing these data to 4-hour rolling averages; and</p>
		<p>iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.</p>
<p>12. Existing limited use CI stationary RICE >500 HP and existing limited use 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year</p>	<p>a. Reduce CO or formaldehyde emissions or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and using an oxidation catalyst or NSCR</p>	<p>i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and</p>

		ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
13. Existing limited use CI stationary RICE >500 HP and existing limited use 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate more than 24 hours per calendar year	a. Reduce CO or formaldehyde emissions or limit the concentration of formaldehyde or CO in the stationary RICE exhaust, and not using an oxidation catalyst or NSCR	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.

^aAfter you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[76 FR 12870, Mar. 9, 2011]

Table 7 to Subpart ZZZZ of Part 63—Requirements for Reports

As stated in §63.6650, you must comply with the following requirements for reports:

For each ...	You must submit a ...	The report must contain ...	You must submit
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			the report ...
<p>1. Existing non-emergency, non-black start stationary RICE 100≤HP≤500 located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >500 HP located at a major source of HAP; existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >300 HP located at an area source of HAP; existing non-emergency, non-black start 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP and operated more than 24 hours per calendar year; new or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP; and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP</p>	<p>Compliance report</p>	<p>a. If there are no deviations from any emission limitations or operating limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period; or b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in §63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), the information in §63.6650(e); or c. If you had a malfunction during the reporting period, the information in §63.6650(c)(4) i. Semiannually according to the requirements in §63.6650(b)(1)–(5) for engines that are not limited use stationary RICE subject to numerical emission limitations; and ii. Annually according to the requirements in §63.6650(b)(6)–(9) for engines that are limited use stationary RICE subject to numerical emission limitations. i. Semiannually according to the requirements in §63.6650(b). i. Semiannually according to the requirements in §63.6650(b).</p>	
<p>2. New or reconstructed non-emergency stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis</p>	<p>Report</p>	<p>a. The fuel flow rate of each fuel and the heating values that were used in your calculations, and you must demonstrate that the percentage of heat input provided by landfill gas or digester gas, is equivalent to 10 percent or more of the gross heat input on an annual basis; and i. Annually, according to the requirements in §63.6650.</p>	
		<p>b. The operating limits provided in your federally enforceable permit, and any deviations from these limits; and i. See item 2.a.i.</p>	
		<p>c. Any problems or errors suspected with the meters.</p>	

		i. See item 2.a.i.	
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[75 FR 51603, Aug. 20, 2010]

Table 8 to Subpart ZZZZ of Part 63—Applicability of General Provisions to Subpart ZZZZ.

As stated in §63.6665, you must comply with the following applicable general provisions.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.1	General applicability of the General Provisions	Yes.	
§63.2	Definitions	Yes	Additional terms defined in §63.6675.
§63.3	Units and abbreviations	Yes.	
§63.4	Prohibited activities and circumvention	Yes.	
§63.5	Construction and reconstruction	Yes.	
§63.6(a)	Applicability	Yes.	
§63.6(b)(1)–(4)	Compliance dates for new and reconstructed sources	Yes.	
§63.6(b)(5)	Notification	Yes.	
§63.6(b)(6)	[Reserved]		
§63.6(b)(7)	Compliance dates for new and reconstructed area sources that become major sources	Yes.	
§63.6(c)(1)–(2)	Compliance dates for existing sources	Yes.	
§63.6(c)(3)–(4)	[Reserved]		
§63.6(c)(5)	Compliance dates for existing area sources that become major sources	Yes.	
§63.6(d)	[Reserved]		
§63.6(e)	Operation and maintenance	No.	
§63.6(f)(1)	Applicability of standards	No.	
§63.6(f)(2)	Methods for determining compliance	Yes.	
§63.6(f)(3)	Finding of compliance	Yes.	
§63.6(g)(1)–(3)	Use of alternate standard	Yes.	
§63.6(h)	Opacity and visible emission	No	Subpart ZZZZ does not contain

	standards		opacity or visible emission standards.
§63.6(i)	Compliance extension procedures and criteria	Yes.	
§63.6(j)	Presidential compliance exemption	Yes.	
§63.7(a)(1)–(2)	Performance test dates	Yes	Subpart ZZZZ contains performance test dates at §§63.6610, 63.6611, and 63.6612.
§63.7(a)(3)	CAA section 114 authority	Yes.	
§63.7(b)(1)	Notification of performance test	Yes	Except that §63.7(b)(1) only applies as specified in §63.6645.
§63.7(b)(2)	Notification of rescheduling	Yes	Except that §63.7(b)(2) only applies as specified in §63.6645.
§63.7(c)	Quality assurance/test plan	Yes	Except that §63.7(c) only applies as specified in §63.6645.
§63.7(d)	Testing facilities	Yes.	
§63.7(e)(1)	Conditions for conducting performance tests	No.	Subpart ZZZZ specifies conditions for conducting performance tests at §63.6620.
§63.7(e)(2)	Conduct of performance tests and reduction of data	Yes	Subpart ZZZZ specifies test methods at §63.6620.
§63.7(e)(3)	Test run duration	Yes.	
§63.7(e)(4)	Administrator may require other testing under section 114 of the CAA	Yes.	
§63.7(f)	Alternative test method provisions	Yes.	
§63.7(g)	Performance test data analysis, recordkeeping, and reporting	Yes.	
§63.7(h)	Waiver of tests	Yes.	
§63.8(a)(1)	Applicability of monitoring requirements	Yes	Subpart ZZZZ contains specific requirements for monitoring at §63.6625.
§63.8(a)(2)	Performance specifications	Yes.	
§63.8(a)(3)	[Reserved]		
§63.8(a)(4)	Monitoring for control devices	No.	
§63.8(b)(1)	Monitoring	Yes.	
§63.8(b)(2)–(3)	Multiple effluents and multiple monitoring systems	Yes.	
§63.8(c)(1)	Monitoring system operation and	Yes.	

	maintenance		
§63.8(c)(1)(i)	Routine and predictable SSM	Yes.	
§63.8(c)(1)(ii)	SSM not in Startup Shutdown Malfunction Plan	Yes.	
§63.8(c)(1)(iii)	Compliance with operation and maintenance requirements	Yes.	
§63.8(c)(2)–(3)	Monitoring system installation	Yes.	
§63.8(c)(4)	Continuous monitoring system (CMS) requirements	Yes	Except that subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS).
§63.8(c)(5)	COMS minimum procedures	No	Subpart ZZZZ does not require COMS.
§63.8(c)(6)–(8)	CMS requirements	Yes	Except that subpart ZZZZ does not require COMS.
§63.8(d)	CMS quality control	Yes.	
§63.8(e)	CMS performance evaluation	Yes	Except for §63.8(e)(5)(ii), which applies to COMS.
		Except that §63.8(e) only applies as specified in §63.6645.	
§63.8(f)(1)–(5)	Alternative monitoring method	Yes	Except that §63.8(f)(4) only applies as specified in §63.6645.
§63.8(f)(6)	Alternative to relative accuracy test	Yes	Except that §63.8(f)(6) only applies as specified in §63.6645.
§63.8(g)	Data reduction	Yes	Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at §§63.6635 and 63.6640.
§63.9(a)	Applicability and State delegation of notification requirements	Yes.	
§63.9(b)(1)–(5)	Initial notifications	Yes	Except that §63.9(b)(3) is reserved.
		Except that §63.9(b) only applies as specified in §63.6645.	
§63.9(c)	Request for compliance extension	Yes	Except that §63.9(c) only applies as specified in §63.6645.
§63.9(d)	Notification of special compliance requirements for new sources	Yes	Except that §63.9(d) only applies as specified in §63.6645.

§63.9(e)	Notification of performance test	Yes	Except that §63.9(e) only applies as specified in §63.6645.
§63.9(f)	Notification of visible emission (VE)/opacity test	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(1)	Notification of performance evaluation	Yes	Except that §63.9(g) only applies as specified in §63.6645.
§63.9(g)(2)	Notification of use of COMS data	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(3)	Notification that criterion for alternative to RATA is exceeded	Yes	If alternative is in use.
		Except that §63.9(g) only applies as specified in §63.6645.	
§63.9(h)(1)–(6)	Notification of compliance status	Yes	Except that notifications for sources using a CEMS are due 30 days after completion of performance evaluations. §63.9(h)(4) is reserved.
			Except that §63.9(h) only applies as specified in §63.6645.
§63.9(i)	Adjustment of submittal deadlines	Yes.	
§63.9(j)	Change in previous information	Yes.	
§63.10(a)	Administrative provisions for recordkeeping/reporting	Yes.	
§63.10(b)(1)	Record retention	Yes.	
§63.10(b)(2)(i)–(v)	Records related to SSM	No.	
§63.10(b)(2)(vi)–(xi)	Records	Yes.	
§63.10(b)(2)(xii)	Record when under waiver	Yes.	
§63.10(b)(2)(xiii)	Records when using alternative to RATA	Yes	For CO standard if using RATA alternative.
§63.10(b)(2)(xiv)	Records of supporting documentation	Yes.	
§63.10(b)(3)	Records of applicability determination	Yes.	
§63.10(c)	Additional records for sources using CEMS	Yes	Except that §63.10(c)(2)–(4) and (9) are reserved.
§63.10(d)(1)	General reporting requirements	Yes.	
§63.10(d)(2)	Report of performance test results	Yes.	

§63.10(d)(3)	Reporting opacity or VE observations	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.10(d)(4)	Progress reports	Yes.	
§63.10(d)(5)	Startup, shutdown, and malfunction reports	No.	
§63.10(e)(1) and (2)(i)	Additional CMS Reports	Yes.	
§63.10(e)(2)(ii)	COMS-related report	No	Subpart ZZZZ does not require COMS.
§63.10(e)(3)	Excess emission and parameter exceedances reports	Yes.	Except that §63.10(e)(3)(i) (C) is reserved.
§63.10(e)(4)	Reporting COMS data	No	Subpart ZZZZ does not require COMS.
§63.10(f)	Waiver for recordkeeping/reporting	Yes.	
§63.11	Flares	No.	
§63.12	State authority and delegations	Yes.	
§63.13	Addresses	Yes.	
§63.14	Incorporation by reference	Yes.	
§63.15	Availability of information	Yes.	

[75 FR 9688, Mar. 3, 2010]

**Indiana Department of Environmental Management
Office of Air Quality**

Addendum to the Technical Support Document (ATSD) for a
Significant Permit Revision to
Federally Enforceable State Operating Permit Renewal

Source Background and Description

Source Name:	Brooks Construction Company, Inc.
Current Location:	2195 West US 421, Delphi, IN 46923
Current County:	Carroll
SIC Code:	2951 (Asphalt Paving Mixtures and Blocks)
Operation Permit No.:	F 035-26262-03291
Operation Permit Issuance Date:	June 16, 2008
Significant Permit Revision No.:	015-32317-03291
Permit Reviewer:	Renee Traivaranon

On December 12, 2012, the Office of Air Quality (OAQ) had a notice published in Carroll County Comet, Flora, Indiana, stating that Brooks Construction Company, Inc had applied for a FESOP permit modification to convert a portion of the RAP storage pile to ground asphalt shingles certified asbestos free shingles for use in the aggregate mix, and add the steel slag and furnace slag in the aggregate mix. The notice also stated that the OAQ proposed to issue a Significant Permit Revision for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Comments and Responses

No comments were received during the public notice period.

Additional Changes

IDEM, OAQ has decided to make additional revisions to the permit as described below:

- (a) For clarification, IDEM has added the following record keeping requirements in Condition D.1.19:
 - (1) maintain records of the amount of waste oil, and its specification and only asbestos-free shingles is used as required in Condition D.1.5,
 - (2) maintain records of the tank identification number, the tank dimensions, and the tank capacity of the liquid asphalt storage tank as required in Condition D.1.8,

The Permit has been revised with deleted language as ~~strikeouts~~ and new language **bolded**.

D.1.19 Record Keeping Requirements

...

- (b) To document the compliance status with Conditions D.1.3, **D.1.5**, and D.1.7, the Permittee shall maintain records in accordance with (1) through (10) below. Records maintained for (1) through (10) below shall be taken monthly and shall be complete and

sufficient to establish compliance with the limits established in Conditions D.1.3, **D.1.5**, and D.1.7....

- (c) **To document the compliance status with Condition D.1.8, the Permittee shall maintain records of the tank identification number, the tank dimensions, and the tank capacity of the liquid asphalt storage tank, when the source is located in Clark or Floyd Counties.**

....

IDEM Contact

- (a) Questions regarding this Significant Permit Revision can be directed to Ms. Renee Traivaranon at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) (324-5615) or toll free at 1-800-451-6027 extension 4-5615.
- (b) A copy of the permit is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

**Indiana Department of Environmental Management
Office of Air Quality**

Technical Support Document (TSD) for a Significant Permit Revision to a
Federally Enforceable State Operating Permit (FESOP)

Source Description and Location

Source Name:	Brooks Construction Company, Inc.
Initial Source Address:	3571 West 500 South, Peru, Indiana 46970
Current Location:	2195 West US 421, Delphi, IN 46923
Current County:	Carroll
SIC Code:	2951 (Asphalt Paving Mixtures and Blocks)
Operation Permit No.:	F 035-26262-03291
Operation Permit Issuance Date:	June 16, 2008
Significant Permit Revision No.:	015-32317-03291
Permit Reviewer:	Renee Traivaranon

On September 14, 2012, the Office of Air Quality (OAQ) received an application from Brooks Construction Company, Inc. related to a modification to an existing plant.

Existing Approvals

The source was issued FESOP Renewal No. 035-26262-03291 on June 16, 2008. The source has since received the following approvals:

- (a) First Relocation No. 103-27678-03291, issued on April 21, 2009;
- (b) Second Relocation No. 003-29221-03291, issued on June 6, 2010; and
- (c) Third Source Relocation No. 015-30552-03291, issued on July 8, 2011.

County Attainment Status

The source is located in Carroll County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard. ¹
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Not designated.

¹Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.
Unclassifiable or attainment effective April 5, 2005, for PM_{2.5}.

- (a) **Ozone Standards**
Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Carroll County has been designated as

attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

- (b) **PM_{2.5}**
 Carroll County has been classified as attainment for PM_{2.5}. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM_{2.5} emissions. These rules became effective on July 15, 2008. On May 4, 2011 the air pollution control board issued an emergency rule establishing the direct PM_{2.5} significant level at ten (10) tons per year. This rule became effective, June 28, 2011. Therefore, direct PM_{2.5} and SO₂ emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.
- (c) **Other Criteria Pollutants**
 Carroll County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

This type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, or 326 IAC 2-7, however, there is an applicable New Source Performance Standard that was in effect on August 7, 1980, therefore fugitive emissions are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Status of the Existing Source

The table below summarizes the potential to emit of the entire source, prior to the proposed revision, after consideration of all enforceable limits established in the effective permits:

Process/Emission Unit	Potential To Emit (tons/year)						
	PM	PM10	SO ₂	NOx	VOC	CO	HAPs
Aggregate Dryer/Mixer	64.0	64.0	92.2	60.7	21.8	88.4	<24
Unpaved Roads	80.0	20.4	--	--	--	--	--
Material Conveying/Handling	22.9	10.8	--	--	--	--	--
Storage Piles	0.71	0.25	--	--	--	--	--
Storage Tanks	--	--	--	--	3.00	--	--
Hot Oil Heater	0.12	0.20	4.35	1.23	0.05	0.71	0.02
Generator	2.60	2.60	2.44	37.0	3.02	7.98	0.03
Silo	0.40	0.40	--	--	8.28	0.80	--
Loadout and Yard	0.35	0.35	--	--	3.36	1.14	0.07
Total PTE of Entire Source	171	99.0	99.0	99.0	39.5	99.0	<25.0
Part 70 Major Source Threshold	N/A	100	100	100	100	100	Single HAP 10.0 Total HAPs 25.0
PSD Major Source Threshold	250	250	250	250	250	250	N/A
Emission Offset Threshold	100	100	100	100	100	100	N/A

Note: This above PTE table is from Appendix A of TSD F035-26262-03291, issued on June 16, 2008.

- (a) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).
- (b) This existing source is not a major source of HAPs, as defined in 40 CFR 63.41, because the Permittee has accepted limits on HAPs emissions to less than ten (10) tons per year for any single

HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).

Description of Proposed Revision

The Office of Air Quality (OAQ) has reviewed an application, submitted by Brooks Construction Company, Inc, requesting to add one Recycled Asphalt Ground Shingle feed bin and convert a portion of the Reclaimed Asphalt Pavement (RAP) to ground certified asbestos free shingle. This source does not produce cold-mix and there is no crushing and grinding at this source. This source processes both the steel slag and blast furnace slag in the aggregate mix and has a generator. Therefore, the requirements of steel slag and blast furnace slag and generator have been evaluated and added in this permit.

The following is a list of the new and modified emission units and pollution control devices:

- (a) One (1) hot drum mix asphalt plant, constructed in 1987 (unless otherwise specified for specific units), **approved for modification in 2012 to use steel slag, blast furnace slag and ground certified asbestos-free shingle in the aggregate mix,**
- (b) **One (1) Recycled Asphalt Ground Shingle feed bin with a maximum holding capacity of 25 tons.**
- (c) Aggregate storage piles of stone, RAP, **ground certified asbestos-free shingles**, and steel slag and blast furnace slag, with a maximum storage capacity of 54,000 tons.
- (d) One (1) low sulfur No. 2 distillate fuel oil fired reciprocating internal combustion generator, identified as emission unit 13, rated at 4.1 MMBtu/hr, **880 Horsepower**, exhausting at one (1) stack, identified as SV5.
[Note: There is an existing generator and the heat input rate was changed to the horsepower.]

Unpermitted Emission Units and Pollution Control Equipment

There is no unpermitted emission unit during this revision.

Enforcement Issues

There are no pending enforcement actions related to this revision.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – FESOP Revision

The following table is used to determine the appropriate permit level under 326 IAC 2-8.11.1. This table reflects the PTE before controls of the proposed revision. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Process/ Emission Unit	PTE of Proposed Revision (tons/year)									
	PM	PM10	PM2.5	SO ₂	NO _x	VOC	CO	GHGs as CO ₂ e	Total HAPs	Worst Single HAP
Dryer/Mixer Slag Processing	0	0	0	18.50	0	0	0	0	0	0
Shingle storage pile	.044	0.015	0.015	0	0	0	0	0	0	0
Total PTE of Proposed Revision	0.044	0.015	0.015	18.5	0	0	0	0	0	0

Pursuant to 326 IAC 2-8-11.1(g), this FESOP is being revised through a FESOP Significant Permit Revision because the proposed revision requires adjustment of the FESOP emission limitations.

PTE of the Entire Source After Issuance of the FESOP Revision

The table below summarizes the potential to emit of the entire source (*reflecting adjustment of existing limits*), with updated emissions shown as **bold** values and previous emissions shown as ~~strike through~~ values.

Process/ Emission Unit	Potential To Emit of the Entire Source to accommodate the Proposed Revision (tons/year)													
	PM	PM ₁₀ *	PM _{2.5} *	SO ₂	NO _x	VOC	CO	GHGs** as CO ₂ e	Total HAPs	Worst Single HAP				
Ducted/Ductable Emissions														
Dryer Fuel Combustion (worst case)	64.0 16.80	64.0 13.39	13.39 13.39	71.40 71.40	69.58 69.58	2.01 2.01	30.76 30.76	44,276.37 44,276.37	<24 11.59	<9.90 (HCl)				
Dryer/Mixer (Process)	195.72 195.72	81.67 81.67	89.90 89.90	39.43 39.43	37.39 37.39	21.75 21.75	88.37 88.37	22,603.4 22,603.4	6.79 7.25	2.04 2.11 (formaldehyde)				
Dryer/Mixer Slag Processing	0	0	0	18.50	0	0	0	0	0	0				
Hot Oil Heater Fuel Combustion (worst case)	0.12	0.20	.20	4.35	1.23	0.05	0.742	1,716.96	0.02	— 0.015				
Generator	2.60 0.82	2.60 0.47	0.47 0.47	2.44 4.75	37.0 28.19	3.02 0.83	7.98 6.46	1,367.41 1,367.41	0.03 0.01	— 0.006				
"Worst Case" Emissions "	196.67	82.34	90.58	99.00	99.00	22.63	95.55	47,643.78	11.63	9.90 (HCl)				
Fugitive Emissions														
Asphalt Load-Out, Silo Filling, and On-Site Yard	0.40 0.75	0.40 0.75	0.75 0.75	0	0	8.28 11.64	0.80 1.96	— 0	0.07 0.19	— 0.06 (formaldehyde)				
	0.35 0.88	0.35 0.31	0.13 0.31	0	0	3.36 0	1.14 0	0	0	0				
Material Storage Piles	0.74 0.88	0.13 0.31	0.31 0.31	0	0	0	0	0	0	0				
Material Conveying Processing and Handling	22.9 4.39	40.8 2.08	0.31 0.31	0	0	0	0	0	0	0				

Process/ Emission Unit	Potential To Emit of the Entire Source to accommodate the Proposed Revision (tons/year)										
	PM	PM ₁₀ *	PM _{2.5} *	SO ₂	NO _x	VOC	CO	GHGs** as CO ₂ e	Total HAPs	Worst Single HAP	
Material Screening, and Conveying	18.08	6.33	6.33	0	0	0	0	0	0	0	
Unpaved Roads	80.0 28.22	20.4 7.19	0.72	0	0	0	0	0	0	0	
Cold Mix Asphalt Production	0	0	0	0	0	0	0	0	0	0	
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0	0	0	0	0	
Volatile Organic Liquid Storage Vessels***	0	0	0	0	0	3.00 negl	0	--	--	--	
Total Fugitive Emissions	52.33	16.66	8.42	0	0	11.64	1.96	0	0.19	0.06 (Xylene)	
Total PTE of Proposed Revision	174 249.0	99.08 99.00	NA 99.0	99.0	99.0	39.5 34.27	99.0 97.51	NA 47,360.74	<25 11.82	<10 9.91(HCI)	

negl = negligible N/A = Not applicable = Not accounted for in previous permit

* Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".

** The 100,000 CO₂e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

*** Fugitive emissions from each of the volatile organic liquid storage tanks were calculated using the EPA Tanks 4.0.9d program and were determined to be negligible.

α Worst Case Emissions (tons/yr) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer + Worst Case Emissions from Hot Oil Heater Fuel Combustion

The table below summarizes the potential to emit of the entire source after issuance of this revision, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this FESOP permit revision, and only to the extent that the effect of the control equipment is made practically enforceable in the permit. (Note: the table below was generated from the above table, with bold text un-bolded and strikethrough text deleted)

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of Revision (tons/year)									
	PM	PM ₁₀ *	PM _{2.5}	SO ₂	NO _x	VOC	CO	GHGs as CO ₂ e**	Total HAPs	Worst Single HAP
Ducted/Ductable Emissions										
Dryer Fuel Combustion (worst case)	16.80	13.39	13.39	71.40	69.58	2.01	30.76	44,276.37	11.59	9.90 (HCI)
Dryer/Mixer (Process)	195.72	81.67	89.90	39.43	37.39	21.75	88.37	22,603.4	7.25	2.11 (formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	18.50	0	0	0	0	0	0
Hot Oil Heater Fuel Combustion (worst case)	0.12	0.20	0.20	4.35	1.23	0.05	0.72	1,716.96	0.02	0.015 (Hexane)
Generator	0.82	0.47	0.47	4.75	28.19	0.83	6.46	1,367.41	0.01	0.006
"Worst Case" Emissions α	196.67	82.34	90.58	99.00	99.00	22.63	95.55	47,360.74	11.63	9.90 (HCI)

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of Revision (tons/year)									
	PM	PM10*	PM2.5	SO ₂	NO _x	VOC	CO	GHGs as CO ₂ e**	Total HAPs	Worst Single HAP
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, and On-Site Yard	0.75	0.75	0.75	0	0	11.64	1.96	0	0.19	0.06
Material Storage Piles	0.88	0.31	0.31	0	0	0	0	0	0	0
Material Processing and Handling	4.39	2.08	0.31	0	0	0	0	0	0	0
Material Screening, and Conveying	18.08	6.33	6.33	0	0	0	0	0	0	0
Unpaved Roads	28.22	7.19	0.72	0	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	0.00	0	0	0.00	0.00
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.00	0	0	0.00	0.00
Volatile Organic Liquid Storage Vessels***	0	0	0	0	0	negl	0	0	negl	negl
Total Fugitive	52.33	16.66	8.42	0	0	11.64	1.96	0.00	0.19	0.06
Total PTE of Entire Source	249.00	99.00	99.00	99.00	99.00	34.27	97.51	47,360.74	11.82	9.90 (HCl)
Title V Major Source Thresholds**	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds**	250	250	250	250	250	250	250	100,000	NA	NA
negl. = negligible * Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". ** The 100,000 CO ₂ e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD. *** Fugitive emissions from each of the volatile organic liquid storage tanks were calculated using the EPA Tanks 4.0.9d program and were determined to be negligible. α Worst Case Emissions (tons/yr) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer + Worst Case Emissions from Hot Oil Heater Fuel Combustion										

(a) FESOP Status

This revision to an existing Title V minor stationary source will not change the minor status, because the potential to emit criteria pollutants from the entire source will still be limited to less than the Title V major source threshold levels. Therefore, the source is still subject to the provisions of 326 IAC 2-8 (FESOP).

In order to comply with the requirements of 326 IAC 2-8-4 (FESOP), the PM10, PM2.5, VOC and CO in the dryer/mixer shall be limited with the following:

- (1) The amount of hot-mix asphalt processed from the aggregate mixing and drying operation shall not exceed 1,359,521 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is an existing requirement for this source.*
- (2) PM10 emissions from dryer/mixer shall not exceed 0.120 pounds per ton of asphalt processed. *This is a change from 0.094 pound PM10 per ton of asphalt processed. This is a Title I change.*
- (3) PM2.5 emissions from dryer/mixer shall not exceed 0.132 pounds per ton of asphalt processed. *This is a new requirement for the source.*
- (4) The VOC emissions from the dryer/mixer shall not exceed 0.032 pounds per ton of asphalt processed. *This is an existing requirement for this source.*
- (5) The CO emissions from the dryer/mixer shall not exceed 0.130 pounds per ton of asphalt processed. *This is an existing requirement for this source.*

Compliance with these limits, combined with the potential to emit PM10, PM2.5, VOC and CO, from all other emission units at this source, shall limit the source-wide total potential to emit of PM10, PM2.5, VOC and CO to less than 100 tons per 12 consecutive month period each, and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-1.1-5 (Nonattainment New Source Review), and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), not applicable.

Additionally, compliance with the limit in Condition (4) shall limit the VOC emissions from the dryer/mixer to less than twenty-five (25) tons per twelve (12) consecutive month period and shall render 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities) not applicable.

SO₂, NO_x and HAP

In order to comply with the requirements of 326 IAC 2-8-4 (FESOP), SO₂, NO_x and HAP emissions from the dryer/mixer and fuel combustion shall be limited as follows:

- (1) Fuel and Slag Specifications:
 - (i) The waste oil combusted shall not contain more than 0.40% chlorine, and 0.04% lead. *These are existing requirements for this source.*
 - (ii) *The waste oil combusted shall not contain more than 0.70% ash. This is a new requirement for this source.*
 - (iii) *The sulfur content of the waste fuel oil shall not exceed 1.0% by weight. This is an existing requirement for this source.*
 - (iv) The sulfur content of No. 2 fuel oil shall not exceed 0.50% by weight. *This is an existing requirement for this source.*
 - (v) The sulfur content of No. 4 fuel oil shall not exceed 1.0% by weight. *This is an existing requirement for this source.*
 - (vi) The sulfur content of No. 5 fuel oil shall not exceed 1.0% by weight. *This is an existing requirement for this source.*
 - (vii) The sulfur content of No. 6 fuel oil shall not exceed 1.0% by weight. *This is an existing requirement for this source.*

- (viii) The sulfur content of the Blast Furnace slag shall not exceed 1.50% by weight. *This is a new requirement for this source. This is a Title I change.*
- (ix) The SO₂ emissions from the dryer/mixer shall not exceed 0.740 pounds per ton of Blast Furnace slag processed in the aggregate mix. *This is a new requirement for this source. This is a Title I change.*
- (x) The sulfur content of the Steel slag shall not exceed 0.66% by weight. *This is a new requirement for this source. This is a Title I change.*
- (xi) The SO₂ emissions from the dryer/mixer shall not exceed 0.0014 pounds per ton of Steel slag processed in the aggregate mix. *This is a new requirement for this source. This is a Title I change.*

(2) Single Fuel and Slag Usage Limitations:

When combusting only one type of fuel per twelve (12) consecutive month period in both dryer/mixer burner and generator, the usage of fuel shall be limited as follows:

- (i) Natural gas usage shall not exceed 732.47 million cubic feet per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a change from 638.4 million cubic feet of natural gas usage. This is a Title I change.*
 - (ii) No. 2 fuel oil usage shall not exceed 2,011,134 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a change from 2,349,600 gallons. This is a Title I change.*
 - (iii) No. 4 fuel oil usage shall not exceed 909,494 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a change from 1,174,800 gallons. This is a Title I change.*
 - (iv) No. 5 and 6 fuel oil usage shall not exceed 909,494 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a change from 1,174,800 gallons. This is a Title I change.*
 - (v) Waste oil usage shall not exceed 7,500,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is an existing requirement for this source.*
 - (vi) Fuel oil #2 usage in the generator shall not exceed 120,000 gallons per consecutive twelve (12) month period, with compliance to be determined at the end of each month. *This is an existing requirement for this source.*
- Note: The source is only permitted to burn the above-mentioned fuels in the dryer/mixer burner and generator. *This is a new requirement for this source. This is a Title I change.*
- (vii) The Blast Furnace slag usage shall not exceed 50,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a new requirement for this source. This is a Title I change.*

- (viii) The Steel slag usage shall not exceed 679,761 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a new requirement for this source. This is a Title I change.*

(3) Multiple Fuel and Slag Usage Limitation:

When combusting more than one fuel per twelve (12) consecutive month period in the dryer/mixer burner in conjunction with the use of slags in the aggregate mix, emissions from the dryer/mixer and generator shall be limited as follows:

- (i) SO₂ emissions from the dryer/mixer burner and generator shall not exceed 94.65 per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a new requirement for the source. This is a Title I change.*

$$SO_2 = 71.40 + 18.50 + 4.75 = 94.65$$

- (ii) NO_x emissions from the dryer/mixer burner and generator shall not exceed 97.77 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a new requirement for this source. This is a Title I change.*

$$NO_x = 69.58 + 28.19 = 97.77$$

- (iii) HCl emissions from the dryer/mixer burner shall not exceed 9.90 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is an existing requirement for this source.*

- (vi) CO₂ equivalent emissions (CO₂e) from the dryer/mixer burner and generator shall not exceed 45,643.78 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is a new requirement for this source. This is a Title I change.*

$$CO_2e = 44,276.37 + 1,367.41 = 45,643.78$$

(4) Asphalt Shingle Usage Limitation

Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAPs)) not applicable, the Permittee shall not grind recycled asphalt shingles on-site and shall only use certified asbestos-free recycled shingles, post consumer waste and/or factory seconds, as an additive in its aggregate mix.

Compliance with these limits, combined with the potential to emit SO₂, NO_x and HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of SO₂, NO_x to less than 100 tons per twelve (12) consecutive month period, any single HAP to less than ten (10) tons per twelve (12) consecutive month period, and total HAPs to less than twenty-five (25) tons per twelve (12) consecutive month period, greenhouse gases (GHGs) to less than 100,000 tons of CO₂ equivalent emissions (CO₂e) per 12 consecutive month period and shall render the requirements of 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable.

(b) PSD Minor Source

This modification to an existing PSD minor stationary source will not change the PSD minor status, because the potential to emit of all attainment regulated pollutants from the entire source will continue to be less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the source shall comply with the following:

- (1) The amount of hot-mix asphalt processed from the aggregate mixing and drying operation shall not exceed 1,359,521 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. *This is an existing requirement for this source;*
- (2) PM emissions from dryer/mixer shall not exceed 0.288 pounds per ton of asphalt processed. *This is a change from 0.094 pound PM per ton of asphalt processed. This is a Title I change;*

Compliance with these limits, combined with the potential to emit PM from all other emission units at this source, shall limit the source-wide total potential to emit of PM to less than 250 tons per 12 consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

- (a) The requirements of the New Source Performance Standard for Stationary Compression Ignition Internal Combustion Engines, 40 CFR 60, Subpart IIII (4I) (326 IAC 12), does not apply to the existing 880 HP generator, because this compression ignition internal combustion generator manufactured prior to April 1, 2006. This generator was manufactured prior to 1987.
- (b) There are no other New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included for this proposed revision.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (c) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines, 40 CFR 63, Subpart ZZZZ (326 IAC 20-82, apply to the existing (880 HP) for this proposed revision, since it is considered an existing stationary reciprocating internal combustion engine (RICE) (construction commenced before June 12, 2006) at an area source of hazardous air pollutants (HAP). Construction of this 880 HP generator commenced prior to 1987.

The generator is subject the following applicable portions of the NESHAP for existing non-emergency stationary RICE (construction commenced before June 12, 2006), which has a site rating of greater than 500 brake horsepower (HP)" at an area source of HAP:

- (1) 40 CFR 63.6580
- (2) 40 CFR 63.6585
- (3) 40 CFR 63.6590(a)(1)(iii)
- (4) 40 CFR 63.6595(a)(1), (b), and (c)
- (5) 40 CFR 63.6603
- (6) 40 CFR 63.6604
- (7) 40 CFR 63.6605
- (8) 40 CFR 63.6612
- (9) 40 CFR 63.6615
- (10) 40 CFR 63.6620
- (11) 40 CFR 63.6625 (g), (h)
- (12) 40 CFR 63.6630
- (13) 40 CFR 63.6635

- (14) 40 CFR 63.6640(a), (b), and (e)
- (15) 40 CFR 63.6645 [(a)(2), (g), and (h)]
- (16) 40 CFR 63.6650
- (17) 40 CFR 63.6655
- (18) 40 CFR 63.6660
- (19) 40 CFR 63.6665
- (20) 40 CFR 63.6670
- (21) 40 CFR 63.6675
- (22) Table 2b
- (23) Table 2d,(item 3)
- (24) Table 3 (item 4)
- (25) Table 4 (items 1 and 3)
- (26) Table 5 (items 1, 2, 3, 4, 5, and 6)
- (27) Table 6 (items 3, 10, and 11)
- (28) Table 7 [(item 1)
- (29) Table 8

The requirements of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the source except as otherwise specified in 40 CFR 63, Subpart ZZZZ.

Note: The generator is not a new unit, however, it has been re-evaluated since it was indicated in the existing TSD that this generator was subject to the 40 CFR 63, Subpart ZZZZ, but these requirements were not included in the permit. Moreover, the heat input rating of this existing generator has been corrected from 4.1 MMBtu/hr to 880 HP.

- (d) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included for this proposed revision.

Compliance Assurance Monitoring (CAM)

- (e) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the potential to emit of the source is limited to less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability Determination

The following state rules are applicable to the proposed revision:

- (a) 326 IAC 2-8-4 (FESOP)
This revision to an existing Title V minor stationary source will not change the minor status, because the potential to emit criteria pollutants from the entire source will still be limited to less than the Title V major source threshold levels. Therefore, the source will still be subject to the provisions of 326 IAC 2-8 (FESOP). See PTE of the Entire Source After Issuance of the FESOP Revision Section above.
- (b) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))
This modification to an existing PSD minor stationary source will not change the PSD minor status, because the potential to emit of all attainment regulated pollutants from the entire source will continue to be less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply. See PTE of the Entire Source After Issuance of the FESOP Revision Section above.
- (c) 326 IAC 2-3 (Emission Offset)
This source is not and will not be located in Lake, Porter without prior approval; therefore, these requirements currently do not apply to this source.

- (d) 326 IAC 2-1.1-5 (Nonattainment New Source Review)
This modification to an existing minor stationary source under 326 IAC 2-1.1-5 (Nonattainment New Source Review) will not change the minor status, because the potential to emit of PM_{2.5} from the entire source will be limited to less than 100 tons per year. Therefore, pursuant to 326 IAC 2-1.1-5, the Nonattainment New Source Review requirements do not apply. See PTE of the Entire Source After Issuance of the FESOP Revision Section above.
- (e) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The potential to emit is limited to less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, the source is not subject to the requirements of 326 IAC 2-4.1. See PTE of the Entire Source After Issuance of the FESOP Section above.
- (e) 326 IAC 2-6 (Emission Reporting)
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.
- (f) 326 IAC 5-1 (Opacity Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
- (1) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4, when this source is located in the following Counties/Townships/Areas:
 1. Clark County (Jefferson Township - Cities of Jeffersonville, Clarksville, Oak Park),
 2. Dearborn County (Lawrenceburg Township - Cities of Lawrenceburg and Greendale)
 3. Dubois County (Bainbridge Township - the City of Jasper)
 4. Marion County (except the area of Washington Township east of Fall Creek and the area of Franklin Township south of Thompson Road and east of Five Points Road)
 5. St. Joseph County (the area north of Kern Road and east of Pine Road)
 6. Vanderburgh County (the area included in the City of Evansville and Pigeon Township)
 7. Vigo County (Indiana State University campus, 0.5km radius around UTM Easting 464,519.00, Northing 4,369,208.00, Zone 16)
 - (2) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4, when this source is located in all other counties and areas not listed above.
 - (3) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period, for all counties.
- (g) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.
- (h) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
Pursuant to 326 IAC 6-5, fugitive particulate matter emissions shall be controlled according to the Fugitive Dust Control Plan, which is included as Attachment A to the permit.

- (j) 326 IAC 12 (New Source Performance Standards)
See Federal Rule Applicability Section of this TSD.
- (k) 326 IAC 20 (Hazardous Air Pollutants)
See Federal Rule Applicability Section of this TSD.

Compliance Determination, Monitoring and Testing Requirements
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- (a) The compliance determination requirements applicable to this revision are as follows:
 - (1) The following equations will be used to determined compliance with SO₂, NO_x, HCl emissions from the dryer/mixer burner and generator operations:

Sulfur Dioxide (SO₂) Emission Calculation:

$$SO_2 = \frac{N(E_N) + O(E_O) + T(E_T) + W(E_W) + G(E_G) + B(E_B) + S(E_S)}{2,000 \text{ lbs/ton}}$$

where:

- SO₂= tons of sulfur dioxide emissions for a 12-month consecutive period
- N = million cubic feet of natural gas used in the dryer/mixer burner in the last 12 months
- O = gallons of No. 2 fuel oil used in the dryer/mixer burner in the last 12 months
- T = gallons of No. 4, 5, 6 fuel oils used in the dryer/mixer burner in the last 12 months
- W = gallons of waste oil used in the dryer/mixer in the burner last 12 months
- G = gallons of No.2 fuel used in the generator in the last 12 months
- B = tons of blast furnace slag used in the dryer/mixer in the last 12 months
- S = tons of steel slag used in the in the dryer/mixer last 12 months

- E_N = 0.60 lb/million cubic feet of natural gas
- E_O = 71.0 lb/1000 gallons of No. 2 fuel oil
- E_T = 157.0 lb/1000 gallons of No. 4, 5, 6 fuel oils
- E_W = 147 lb/1000 gallons of waste oil
- E_G = 79.18 lb/1000 gallons of oil in the generator
- E_B = 0.74 lb/ton of blast furnace slag used
- E_S = 0.0014 lb/ton of steel slag used

Nitrogen Oxides (NO_x) Emission Calculation:

$$NO_x = \frac{N(E_N) + O(E_O) + T(E_T) + W(E_W) + G(E_G)}{2,000 \text{ lbs/ton}}$$

where:

- NO_x= tons of nitrogen oxide emissions for a 12-month consecutive period;
- N = million cubic feet of natural gas used in the dryer/mixer burner in the last 12 months
- O = gallons of No. 2 fuel oil used in the dryer/mixer burner in the last 12 months
- T = gallons of No. 4, 5, 6 fuel oils used in the dryer/mixer burner in the last 12 months
- W = gallons of waste oil used in the dryer/mixer in the burner last 12 months
- G = gallons of No.2 fuel used in the generator in the last 12 months

- E_N = 190 lb/million cubic feet of natural gas
- E_O = 24.0 lb/1000 gallons of No. 2 fuel oil
- E_T = 47.0 lb/1000 gallons of No. 4, 5, 6 fuel oils
- E_W = 19.0 lb/1000 gallons of waste oil
- E_G = 469.82 lb/1000 gallons of No.2 oil used in the generator

HCl emissions Calculation:

$$\text{HCl} = \frac{W(E_w)}{2,000 \text{ lbs/ton}}$$

where:

HCl = tons of Hydrogen Chloride emissions for twelve (12) month consecutive period
 W = gallons of waste oil used in the last 12 months
 E_w = 26.4 lb/1000 gallons of waste oil

- (2) The following equations will be used to determined compliance with CO₂e emissions from the dryer/mixer burner and generator operations:

CO₂e emissions Calculation:

$$\text{CO}_2\text{e} = \sum[(\text{CO}_2 \times \text{CO}_2 \text{ GWP}) + (\text{CH}_4 \times \text{CH}_4 \text{ GWP}) + (\text{N}_2\text{O} \times \text{N}_2\text{O} \text{ GWP})]$$

Where:

CO₂e = tons of CO₂e equivalent emissions for last 12 consecutive month period;

Greenhouse Warming Potentials (GWP)

Carbon dioxide (CO₂ GWP) = 1
 Methane (CH₄ GWP) = 21
 Nitrous oxide (N₂O GWP) = 310

$$\text{CO}_2 = \frac{[N(X_N) + O(X_O) + T(X_T) + W(X_W) + G(X_G)]}{2,000}$$

$$\text{CH}_4 = \frac{[N(X_N) + O(X_O) + T(X_T) + W(X_W) + G(X_G)]}{2,000}$$

$$\text{N}_2\text{O} = \frac{[N(X_N) + O(X_O) + T(X_T) + W(X_W) + G(X_G)]}{2,000}$$

CO₂ = tons of CO₂ emissions for last 12 consecutive month period;
 CH₄ = tons of CH₄ emissions for last 12 consecutive month period; and
 N₂O = tons of N₂O emissions for last 12 consecutive month period

N = million cubic feet of natural gas used in the dryer/mixer burner in the last 12 months
 O = gallons of No. 2 fuel oil used in the dryer/mixer burner in the last 12 months
 T = gallons of No. 4, 5, 6 fuel oils used in the dryer/mixer burner in the last 12 months
 W = gallons of waste oil used in the dryer/mixer in the burner last 12 months
 G = gallons of No.2 fuel used in the generator in the last 12 months

For CO₂:

X_N = 120,161.84 x 10⁻⁶ pounds per cubic feet of natural gas;
 X_O = 22,501.41 x 10⁻³ pounds per gallon of No. 2 fuel oil;
 X_T = 24,835.04 x 10⁻³ pounds per gallon of No. 4, 5, 6 fuel oils;
 X_W = 22,024.15 x 10⁻³ pounds per gallon of waste oil; and
 X_G = 22,707.83 x 10⁻³ pounds per gallon of No. 2 fuel oil in the generator

For CH₄:

X_N = 2.49 x 10⁻⁶ pounds per cubic feet of natural gas;
 X_O = 0.91 x 10⁻³ pounds per gallon of No. 2 fuel oil;
 X_T = 1.0 x 10⁻³ pounds per gallon of No. 4, 5, 6 fuel oils;
 X_W = 0.89 x 10⁻³ pounds per gallon of waste oil; and
 X_G = 1.24 x 10⁻³ pounds per gallon of No. 2 fuel oil in the generator

For N₂O:

X_N = 2.2 x 10⁻⁶ pounds per cubic feet of natural gas;
 X_O = 0.26 x 10⁻³ pounds per gallon of No. 2 fuel oil;
 X_T = 0.53 x 10⁻³ pounds per gallon of No. 4, 5, 6 fuel oils;
 X_W = 0.18 x 10⁻³ pounds per gallon of waste oil; and
 X_G = 0.18 x 10⁻³ pounds per gallon of No. 2 fuel oil in the generator

- (3) The shingle characteristics (i.e., lack of asbestos content) will be used to verify compliance with the HAP limitation.
- (b) There are no changes to the compliance monitoring for this source for this revision.
- (c) The testing requirements applicable to this revision are as follows:

Emission Unit	Control Device	Pollutant	Timeframe for Testing	Frequency of Testing
Dryer/mixer	Baghouse	PM2.5	Five (5) years from the most recent valid testing of PM and PM10	Once every five (5) years
Dryer/mixer	N/A	SO2	Within 180 days after initial use of Blast Furnace slag ⁽¹⁾	One time test
Generator	N/A	CO	Within 180 days after initial use ⁽²⁾	According to Table 3: every 8760 hours of operation or 3 years, whichever comes first.

- (1) Testing shall only be performed if the company has not previously performed SO2 testing while using Blast Furnace slag in the aggregate mix at one of their other Indiana facilities. [Note: Testing of the Steel Slag is not required since the SO2 emissions are only 0.0014 pounds per ton VS 0.74 pounds per ton of blast furnace slag. Also, if 100% is used in the aggregate mix, the SO2 emissions will be less than 1 ton per year.]
- (2) Testing is required for 40 CFR 63, Subpart ZZZZ. This initial testing is not required for this generator, if this unit had been previously tested and the test met all of the conditions in 40 CFR 63.6612 (b)(1) through (4).

Proposed Changes

- (a) The following changes listed below are due to the proposed revision.
 - (1) Section A.1, SIC code description has been added for clarification.

- (2) Section A.2, steel slag, blast furnace slag and ground certified asbestos-free shingle have been added to the aggregate mix, and a feed bin has been added to the material conveying and handling operations. Also, since this source does not process crushing, grinding and cold mix asphalt production, this information has been added for clarification.
- (3) Section A.2 Emission Units and Pollution Control Equipment Summary has been rearranged to moved the generator out of 40 CFR 60, Subpart I, and the heat input rate was changed from 4.1 MMBtu/hr to 880 HP/hr as indicated on the unit's label.
- (4) Fugitive emissions from production operations were removed since they are not emission units and control devices.
- (5) Section D.1 Emissions Unit Description has been revised according to the Section A.1 unit description.
- (6) Condition D.1.1: PM, PM10, CO, VOC and HAP Limitations [326 IAC 2-8-4] [326 IAC 2-2] [326 IAC 2-3] [326 IAC 8-1-6] has been revised and renamed as
 - D.1.1 PSD Minor Limit [326 IAC 2-2];
 - D.1.2 FESOP Limits: PM10, PM2.5, and CO [326 IAC 2-8-4][326 IAC 2-2] [326 IAC 2-1.1-5]; and
 - D.1.4 FESOP Limits: VOC [326 IAC 2-8-4][326 IAC 2-2] [326 IAC 8-1-6].In addition, the PM, PM10 limits have been revised, the PM2.5 limit has been added. Also, the emissions from the hot mix asphalt cement storage silo and emissions from asphalt load-out limits have been removed. [See the attached calculations]
- (7) Condition D.1.2: Fuel Usage Limits [326 IAC 2-8-4] [326 IAC 2-2] [326 IAC 2-3] has been re-named as D.1.3 FESOP Limits: SO₂, NO_x, and HAPs [326 IAC 2-8-4] [326 IAC 2-2] [326 IAC 2-4.1] and the fuel usage limits have been revised and slag usage limits have been added.
- (8) Condition D.1.3: Sulfur Dioxide (SO₂) Emission Limitations [326 IAC 7-1.1-1] [326 IAC 7-1.1-2] has been revised in D.1.7.
- (9) Condition D.1.4: Hydrogen Chloride (HCl) Emissions [326 IAC 2-8-4] has been revised in D.1.5 Hazardous Air Pollutants (HAPs) [326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-4.1]
- (10) Condition D.1.5: Particulate Matter (PM) [326 IAC 6.5-1-2] has been revised in D.1.6.
- (11) Condition D.1.8: Sulfur Dioxide Emissions and Sulfur Content has been revised to add the Compliance Determination of Steel Slags and Blast Furnace Slag in Condition D.1.12.
- (12) Condition: D.1.10 Testing Requirements [326 IAC 2-8-4(3)] has been revised to add PM2.5 testing in Condition D.1.11.
- (13) Compliance Determination for SO₂, NO_x, HCl and CO₂e emissions have been added for multiple fuel usage limits in Condition D.1.14. In addition, Compliance Determination for Shingle Asbestos Content has been added in Condition D.1.15.
- (14) Compliance D.1.15 Record Keeping Requirements has been revised in Condition D.1.19.
- (15) Compliance D.1.16 Reporting Requirements has been revised in Condition D.1.20.
- (16) Section D.1 New Source Performance Standards (NSPS) Requirements have been revised and moved to Section E.1.

- (17) Section D.2 has been revised to include PM2.5 emissions in Condition D.3.1.
 - (18) NESHAP requirements for Stationary Reciprocating Internal Combustion Engines have been added for the generator in Section E.2.
 - (19) FESOP Quarterly Reports for Fuel Oil Usage limits, natural gas limit and generator has been consolidated to one report and the limit have been revised including adding the steel slag and furnace slag usage limits.
- (b) Upon further review, IDEM, OAQ has decided to make the following changes to the permit.
- (1) The revisions to 326 IAC 2 resulted in changes to the rule cites listed in the permit. These changes are not changes to the underlying provisions. The change is only to the cites of these rules in Section B - Operational Flexibility. IDEM, OAQ has also clarified the rule cite for the Preventive Maintenance Plan.
 - (2) IDEM, OAQ has clarified the Permittee's responsibility with regards to record keeping.
 - (3) Advanced Source Modification Approval has been removed since this source had been complete constructed.
 - (4) All reserved conditions were removed, and all subsequent conditions are renumbered.
 - (5) Particulate Emission Limitations have been revised.
 - (6) The Greenhouse Gases limit requirements have been added to Overall Source Limit.
 - (7) Stack Height has been removed since it is exempt for Asphalt Plant.
 - (8) Emergency Reduction Plans have been revised.
 - (9) IDEM, OAQ has clarified the interaction of the Quarterly Deviation and Compliance Monitoring Report and the Emergency Provisions.
 - (10) Relocation of Portable Sources has been revised to indicate that the notification of the relocation requires a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual".

The permit has been revised as follows with the deleted language appears as ~~strikethrough~~ text and new language appears as **bold** text

A.1 General Information [326 IAC 2-8-3(b)]

...

SIC Code: 2951 (**Asphalt Paving Mixtures and Blocks**)

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This portable source consists of the following emission units and pollution control devices:

- (a) One (1) hot drum mix asphalt plant, constructed in 1987 (unless otherwise specified for specific units), **approved for modification in 2012 to use steel slag, blast furnace slag and ground certified asbestos-free shingle**, consisting of the following:

- (1) One (1) aggregate drum mix dryer, identified as emission unit No. 2, with a maximum capacity of 300 tons per hour, equipped with one (1) No. 2 distillate fuel oil fired aggregate dryer burner with a maximum rated capacity of 123 million (MM) British thermal units (Btu) per hour using natural gas, refinery blend fuel oil, No. 4 fuel oil, No. 5 fuel oil, No. 6 fuel oil, or waste oil as back-up fuels and one (1) cyclone and baghouse in series for air pollution control, exhausting at one (1) stack, identified as SV1;
- (2) Material conveying and handling operations consisting of the following:
 - (A) One (1) drag slat conveyor, three (3) feeder conveyors, and one (1) screen;
 - (B) One (1) cold feed system consisting of four (4) compartments with a total aggregate holding capacity of 100 tons;
 - (C) One (1) Recycled Asphalt Pavement (RAP) feed bin with a maximum holding capacity of 25 tons; **and**
 - (D) **One (1) Recycled Asphalt Ground Shingle feed bin with a maximum holding capacity of 25 tons.**
- ~~(3) One (1) low sulfur No. 2 distillate fuel oil fired reciprocating internal combustion generator, identified as emission unit 13, rated at 4.1 MMBtu/hr, exhausting at one (1) stack, identified as SV5; [Note: move to item 6.]~~
- (43) One (1) liquid asphalt storage tank, identified as Tank 10, constructed in 1979, with a maximum storage capacity of 25,000 gallons, exhausting at one (1) stack, identified as SV3;
- (54) One (1) hot mix asphalt cement storage silo with a maximum storage capacity of 300 tons;
- (65) Aggregate storage piles **of stone, RAP, ground certified asbestos-free shingles, and steel slag and blast furnace slag**, with a maximum storage capacity of 54,000 tons.; ~~and~~
- ~~(7) Fugitive emissions from production operations including load-out and yard emissions.~~

~~This hot drum mix asphalt plant is~~ **Above units are** considered to be an affected source under 40 CFR 60, Subpart I.

- (36) One (1) low sulfur No. 2 distillate fuel oil fired reciprocating internal combustion generator, identified as emission unit 13, rated at ~~4.1 MMBtu/hr~~ **880 HP/hr**, exhausting at one (1) stack, identified as SV5.

~~B.4~~ Reserved

~~B.54~~ Enforceability [326 IAC 2-8-6] [IC 13-17-12]

....

~~B.121~~ Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)][~~326 IAC 2-8-5(a)(1)~~]

.....

~~B.16~~ Reserved

....

B.2018 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) **and (c)** ~~through (d)~~ without a prior permit revision, if each of the following conditions is met:

- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
- (2) Any approval required by 326 IAC 2-8-11.1 has been obtained;
- (3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
- (4) The Permittee notifies the:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

- (5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-8-15 ~~(b) through (d)~~ **(b)(1) and (c)**. The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-8-15 ~~(b)(2), (c)(1), and (d)~~ **(b)(1) and (c)**.

- (b) Emission Trades [326 IAC 2-8-15 ~~(e)~~ **(b)**]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15 ~~(e)~~ **(b)**.
- (c) Alternative Operating Scenarios [326 IAC 2-8-15 ~~(d)~~ **(c)**]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ, or U.S. EPA is required.

- (d) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

.....

~~B.25 Advanced Source Modification Approval [326 IAC 2-8-4(11)] [326 IAC 2-1.1-9]~~

- ~~(a) The requirements to obtain a permit modification under 326 IAC 2-8-11.1 are satisfied by this permit for the proposed emission units, control equipment or insignificant activities in Sections A.2 and A.3.~~
- ~~(b) Pursuant to 326 IAC 2-1.1-9 any permit authorizing construction may be revoked if construction of the emission unit has not commenced within eighteen (18) months from the date of issuance of the permit, or if during the construction, work is suspended for a continuous period of one (1) year or more.~~

....

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour. ~~when operating in counties other than Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo, or Wayne Counties. When operating in Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo, or Wayne Counties, particulate emissions shall be limited pursuant to 326 IAC 6.5-1.~~

C.2 Overall Source Limit [326 IAC 2-8]

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

- (a) Pursuant to 326 IAC 2-8:
 - (1) The potential to emit any regulated pollutant, except particulate matter (PM) **and greenhouse gases (GHGs)**, from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.
 - (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
 - (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.
 - (4) **The potential to emit greenhouse gases (GHGs) from the entire source shall be limited to less than one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) per twelve (12) consecutive month period.**
- (b) **Pursuant to 326 IAC 2-2 (PSD),** The potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period. **This limitation shall make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) not applicable.**

- (c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.
- (d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

C.3 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (Applicability) and 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) **Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4, when this source is located in the following Counties/Townships/Areas:**
 1. **Clark County (Jefferson Township - Cities of Jeffersonville, Clarksville, Oak Park),**
 2. **Dearborn County (Lawrenceburg Township - Cities of Lawrenceburg and Greendale)**
 3. **Dubois County (Bainbridge Township - the City of Jasper)**
 4. **Marion County (except the area of Washington Township east of Fall Creek and the area of Franklin Township south of Thompson Road and east of Five Points Road)**
 5. **St. Joseph County (the area north of Kern Road and east of Pine Road)**
 6. **Vanderburgh County (the area included in the City of Evansville and Pigeon Township)**
 7. **Vigo County (Indiana State University campus, 0.5km radius around UTM Easting 464,519.00, Northing 4,369,208.00, Zone 16)**
- (ab) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4, when this source is located in all other **counties and areas not listed above.**
- (bc) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

.....

C.7 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to ~~the plan submitted on March 11, 1996, when operating in the areas described in 326 IAC 6-5-1(a).~~ The plan is included **the attached plan as in Attachment A.**

C.8 Reserved

..

C.9 Stack Height [326 IAC 1-7]

~~The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty five (25) tons per year or more of particulate matter or sulfur dioxide is emitted.~~

~~C.1613~~ Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee shall **maintain the most recently submitted** ~~prepare~~ written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) These ERPs shall be submitted for approval to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2254

~~within ninety (90) days from the date of issuance of this permit.~~

~~The ERP does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).~~

~~(c) If the ERP is disapproved by IDEM, OAQ, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.~~

~~(d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.~~

~~(e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.~~

~~(f) Upon direct notification by IDEM, OAQ, that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]~~

~~C.20~~ Emission Statement [326 IAC 2-6] [326 IAC 2-8-4(3)]

~~Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit an emission statement by July 1 following a calendar year when the source emits oxides of nitrogen into the ambient air equal to or greater than twenty five (25) tons whenever the source is operating in Lake, Porter, or LaPorte Counties. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.~~

~~The statement must be submitted to:~~

~~Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue
MC 61-50 IGCN 1003
Indianapolis, Indiana 46204-2254~~

~~The emission statement does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).~~

~~C.2117~~ General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. **Support information includes the following:**

- (AA) All calibration and maintenance records.
- (BB) All original strip chart recordings for continuous monitoring instrumentation.
- (CC) Copies of all reports required by the FESOP.

Records of required monitoring information include the following:

- (AA) The date, place, as defined in this permit, and time of sampling or measurements.
- (BB) The dates analyses were performed.
- (CC) The company or entity that performed the analyses.
- (DD) The analytical techniques or methods used.
- (EE) The results of such analyses.
- (FF) The operating conditions as existing at the time of sampling or measurement.

These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

- (b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

C.2218 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. **Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of this paragraph.**
.....

C.2319 Relocation of Portable Sources [326 IAC 2-14-4]

- (a) ~~This permit is approved for operation in all areas of Indiana, except in Lake and Porter Counties and in areas designated as extreme, severe, or serious nonattainment areas for any National Ambient Air Quality Standard. This determination is based on the requirements of Prevention of Significant Deterioration in 326 IAC 2-2, and Emission Offset requirements in 326 IAC 2-3. Prior to locating in Lake or Porter Counties or any extreme, severe, or serious nonattainment area, the Permittee must submit a request and obtain a permit modification.~~ **This permit is approved for operation in all areas of Indiana except in severe nonattainment areas for ozone (at the time of this permit's issuance these areas were Lake and Porter Counties). This determination is based on the requirements of Prevention of Significant Deterioration in 326 IAC 2-2. Prior to locating in any severe nonattainment area, the Permittee must submit a request and obtain a permit modification.**

...

- (B) Whether or not the sources will be considered as one source. **See Non Rule Policy (NRP) Air-005 and Air-006.**

- (6) If the source **will** be considered as one source, whether or not the source to be relocated to has received the necessary approvals from IDEM to allow the relocation.

The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: **Hot-mix Asphalt Plant**

- (a) One (1) hot drum mix asphalt plant, constructed in 1987 (unless otherwise specified for specific units), **approved for modification in 2012 to use the steel slag, blast furnace slag and ground certified asbestos-free shingle**, consisting of the following:
- (1) One (1) aggregate drum mix dryer, identified as emission unit No. 2, with a maximum capacity of 300 tons per hour, equipped with one (1) No. 2 distillate fuel oil fired aggregate dryer burner with a maximum rated capacity of 123 million (MM) British thermal units (Btu) per hour using natural gas, refinery blend fuel oil, No. 4 fuel oil, No. 5 fuel oil, No. 6 fuel oil, or waste oil as back-up fuels and one (1) cyclone and baghouse in series for air pollution control, exhausting at one (1) stack, identified as SV1;
 - (2) Material conveying and handling operations consisting of the following:
 - (A) One (1) drag slat conveyor, three (3) feeder conveyors, and one (1) screen;
 - (B) One (1) cold feed system consisting of four (4) compartments with a total aggregate holding capacity of 100 tons;
 - (C) One (1) Recycled Asphalt Pavement (RAP) feed bin with a maximum holding capacity of 25 tons; **and**
 - (D) **One (1) Recycled Asphalt Ground Shingle feed bin with a maximum holding capacity of 25 tons.**
 - ~~(3) One (1) low sulfur No. 2 distillate fuel oil fired reciprocating internal combustion generator, identified as emission unit 13, rated at 4.1 MMBtu/hr, exhausting at one (1) stack, identified as SV5;~~
 - (43) One (1) liquid asphalt storage tank, identified as Tank 10, constructed in 1979, with a maximum storage capacity of 25,000 gallons, exhausting at one (1) stack, identified as SV3;
 - ~~(54)~~ One (1) hot mix asphalt cement storage silo with a maximum storage capacity of 300 tons;
 - (65) Aggregate storage piles of **stone, RAP, ground certified asbestos-free shingles, and steel slag and blast furnace slag**, with a maximum storage capacity of 54,000 tons; and
 - ~~(7) Fugitive emissions from production operations including load-out and yard emissions.~~

~~This hot drum mix asphalt plant is~~ **Above units are** considered to be an affected source under 40 CFR 60, Subpart I.

- (36) One (1) low sulfur No. 2 distillate fuel oil fired reciprocating internal combustion generator, identified as emission unit 13, rated at 4.1 MMBtu/hr **880 HP/hr**, exhausting at one (1) stack, identified as SV5.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

~~D.1.1 PM, PM10, CO, VOC and HAP Limitations [326 IAC 2-8-4] [326 IAC 2-2] [326 IAC 2-3] [326 IAC 8-1-6]~~

~~Pursuant to 326 IAC 2-8-4, and in order to render 326 IAC 2-2, 326 IAC 2-3, and 326 IAC 8-1-6 not applicable, the emissions from the asphalt plant shall be limited as follows:~~

- ~~(a) The asphalt production rate shall be limited to less than 1,359,521 tons per twelve (12) consecutive month period with compliance determined at the end of each month.~~
- ~~(b) The emissions from the aggregate dryer/mixer shall be limited as follows:~~
- ~~(1) PM emissions from the aggregate dryer/mixer (after control) shall be limited to less than 0.0942 pounds of PM per ton of asphalt produced.~~
 - ~~(2) PM10 emissions from the aggregate dryer/mixer (after control) shall be limited to less than 0.0942 pounds of PM10 per ton of asphalt produced.~~
 - ~~(3) CO emissions from the aggregate dryer/mixer shall be limited to less than 0.13 pounds of CO per ton of asphalt produced.~~
 - ~~(4) VOC emissions from the aggregate dryer/mixer shall be limited to less than 0.032 pounds of VOC per ton of asphalt produced.~~
- ~~(c) The emissions from the hot mix asphalt cement storage silo shall be limited as follows:~~
- ~~(1) PM emissions from the hot mix asphalt cement storage silo shall be limited to less than 5.86E-04 pounds of PM per ton of asphalt produced.~~
 - ~~(2) PM10 emissions from the hot mix asphalt cement storage silo shall be limited to less than 5.86E-04 pounds of PM10 per ton of asphalt produced.~~
 - ~~(3) CO emissions from the hot mix asphalt cement storage silo shall be limited to less than 1.18E-03 pounds of CO per ton of asphalt produced.~~
 - ~~(4) VOC emissions from the hot mix asphalt cement storage silo shall be limited to less than 0.0122 pounds of VOC per ton of asphalt produced.~~
- ~~(d) The emissions from asphalt load-out shall be limited as follows:~~
- ~~(1) PM emissions from the asphalt load-out shall be limited to less than 5.22E-04 pounds of PM per ton of asphalt produced.~~
 - ~~(2) PM10 emissions from the asphalt load-out shall be limited to less than 5.22E-04 pounds of PM10 per ton of asphalt produced.~~
 - ~~(3) VOC emissions from the asphalt load-out shall be limited to less than 3.91E-03 pounds of VOC per ton of asphalt produced.~~

- (4) ~~CO emissions from the asphalt load-out shall be limited to less than 1.35E-03 pounds of CO per ton of asphalt produced.~~
- (5) ~~Total HAP emissions from the asphalt load-out shall be limited to less than 8.66E-05 pounds of total HAPs per ton of asphalt produced.~~
- (e) ~~The yard emissions shall be limited as follows:~~
 - (1) ~~VOC yard emissions shall be limited to less than 1.03E-03 pounds of VOC per ton of asphalt produced.~~
 - (2) ~~CO yard emissions shall be limited to less than 3.31E-04 pounds of CO per ton of asphalt produced.~~
 - (3) ~~Total HAP yard emissions shall be limited to less than 1.65E-05 pounds of total HAPs per ton of asphalt produced.~~

Compliance with these limits, combined with the limits and emissions from other emission units at this source, will render 326 IAC 2-7 (Part 70 Permit Program), 326 IAC 2-2 (PSD), 326 IAC 2-3 (Emission Offset), and 326 IAC 8-1-6 (BACT) not applicable.

~~D.1.2 Fuel Usage Limits [326 IAC 2-8-4] [326 IAC 2-2] [326 IAC 2-3]~~

~~Pursuant to 326 IAC 2-8-4, and in order to render 326 IAC 2-2 and 326 IAC 2-3 not applicable, the Permittee shall comply with the following:~~

- (a) ~~The fuel usage for the aggregate mixer/dryer burner shall be limited as follows:~~
 - (1) ~~Natural Gas~~
 - (A) ~~The usage of natural gas in the aggregate dryer burner shall not exceed 638.4 million standard cubic feet (MMscf) per twelve (12) consecutive month period, with compliance determined at the end of each month.~~
 - (B) ~~The NOx emissions from the aggregate dryer burner shall be limited to less than 190 pounds per MMscf of natural gas.~~
 - (2) ~~No. 2 Fuel Oil~~
 - (A) ~~The No. 2 fuel oil combusted in the aggregate dryer burner shall be less than 2,349,600 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~
 - (B) ~~For the purpose of determining compliance with this limit, every thousand gallons of No. 2 fuel oil shall be considered equivalent to 500 gallons of refinery blend oil, fuel oil No. 4, fuel oil No. 5; fuel oil No. 6, or waste oil.~~
 - 1000 gallons of No. 2 oil = 500 gallons of refinery oil
 - 1000 gallons of No. 2 oil = 500 gallons of No. 4 oil
 - 1000 gallons of No. 2 oil = 500 gallon of No. 5 oil
 - 1000 gallons of No. 2 oil = 500 gallons of No. 6 oil
 - 1000 gallons of No. 2 oil = 500 gallons of waste oil
 - (C) ~~The sulfur content of the No. 2 fuel oil used in the aggregate dryer burner shall not exceed 0.5% by weight~~

- (D) ~~The SO₂ emissions from the aggregate dryer burner shall be limited to less than 78.5 pounds per thousand gallons (lb/kgal) of No. 2 fuel oil.~~
- (E) ~~The NO_x emissions from the aggregate dryer burner shall be limited to less than 24.0 pounds per thousand gallons (lb/kgal) of No. 2 fuel oil.~~
- (3) ~~Refinery blend oil, fuel oil No. 4, fuel oil No. 5, or fuel oil No. 6~~
 - (A) ~~The usage of refinery blend oil, fuel oil No. 4, fuel oil No. 5, or fuel oil No. 6 shall in no case exceed 1,174,800 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~
 - (B) ~~The sulfur content of the refinery blend oil, fuel oil No. 4, fuel oil No. 5, or fuel oil No. 6, used in the aggregate dryer burner shall not exceed 1.0% by weight.~~
 - (C) ~~The SO₂ emissions from the aggregate dryer burner shall be limited to less than 157 pounds per thousand gallons (lb/kgal) of refinery blend oil, fuel oil No. 4, fuel oil No. 5, or fuel oil No. 6.~~
 - (D) ~~The NO_x emissions from the aggregate dryer burner shall be limited to less than 47.0 pounds per thousand gallons (lb/kgal) of refinery blend oil, fuel oil No. 4, fuel oil No. 5, or fuel oil No. 6.~~
- (4) ~~Waste Oil~~
 - (A) ~~The waste oil usage shall in no case exceed 750,000 gallons per twelve (12) consecutive month period with compliance determined at the end of each month.~~
 - (B) ~~The sulfur content of the waste oil used in the aggregate dryer burner shall not exceed 1.0% by weight.~~
 - (C) ~~The SO₂ emissions from the aggregate dryer burner shall be limited to less than 157 pounds per thousand gallons (lb/kgal) of waste oil.~~
 - (D) ~~The NO_x emissions from the aggregate dryer burner shall be limited to less than 47.0 pounds per thousand gallons (lb/kgal) of waste oil.~~
- (b) ~~Pursuant to 326 IAC 2-8-4, the fuel usage for the generator identified as emission unit 13 shall be limited as follows:~~
 - (1) ~~The No. 2 fuel oil usage for the generator, identified as emission unit 13, shall be limited to 120,000 U.S. gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~
 - (2) ~~The NO_x emissions from the generator, identified as emission unit 13, shall be limited to less than 617 pounds per thousand gallons (lb/kgal) of No. 2 fuel oil.~~
 - (3) ~~The PM emissions from the generator, identified as emission unit 13, shall be limited to less than 43.4 pounds per thousand gallons (lb/kgal) of No. 2 fuel oil.~~

- ~~(4) The PM₁₀ emissions from the generator, identified as emission unit 13, shall be limited to less than 43.4 pounds per thousand gallons (lb/kgal) of No. 2 fuel oil.~~
- ~~(5) The SO₂ emissions from the generator, identified as emission unit 13, shall be limited to less than 40.6 pounds per thousand gallons (lb/kgal) of No. 2 fuel oil.~~
- ~~(6) The CO emissions from the generator, identified as emission unit 13, shall be limited to less than 133 pounds per thousand gallons (lb/kgal) of No. 2 fuel oil.~~
- ~~(7) The VOC emissions from the generator, identified as emission unit 13, shall be limited to less than 50.4 pounds per thousand gallons (lb/kgal) of No. 2 fuel oil.~~

~~Compliance with these limits, combined with the emissions from other emission units at the source, will render the requirements of 326 IAC 2-7 (Part 70 Program), 326 IAC 2-2 (Prevention of Significant Deterioration), and 326 IAC 2-3 (Emission Offset) not applicable.~~

~~D.1.3 Sulfur Dioxide (SO₂) Emission Limitations [326 IAC 7-1.1-1] [326 IAC 7-1.1-2]~~

~~Pursuant to 7-1.1-2, sulfur dioxide emissions from the aggregate dryer/mixer shall be limited as follows:~~

- ~~(a) One and six tenths (1.6) pounds per MMBtu for residual oil combustion, and~~
- ~~(b) Five tenths (0.5) pound per MMBtu for distillate oil combustion.~~

~~D.1.4 Hydrogen Chloride (HCl) Emissions [326 IAC 2-8-4]~~

~~Pursuant to 2-8-4(1), the following limits shall apply to the aggregate dryer:~~

- ~~(a) The usage of waste oil in the 123 MMBtu per hour burner for the aggregate dryer shall be limited to 750,000 U.S. gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~
- ~~(b) The chlorine content of the waste oil used in the 123 MMBtu per hour burner for the aggregate dryer shall not exceed four tenths of a percent (0.40%) by weight.~~
- ~~(c) The HCl emissions from the 123 MMBtu per hour burner for the aggregate dryer shall be limited to less than 26.4 pounds of HCl per 1,000 gallons of waste oil burned.~~

~~These limits are required in order to limit the source-wide emissions of HCl to less than 10 tons per year. Compliance with these limits will also limit source-wide emissions of combined HAPs to less than 25 tons per year. Therefore, compliance with these limits renders 326 IAC 2-7 (Part 70 Permit Program) not applicable.~~

~~D.1.5 Particulate Matter (PM) [326 IAC 6.5-1-2]~~

~~Pursuant to 326 IAC 6.5-1-2(a), particulate emissions from the asphalt plant shall not exceed 0.03 grain per dry standard cubic foot when operating in the counties listed in 326 IAC 6.5-1-1(a).~~

~~D.1.6 Volatile Organic Liquid Storage Vessels [326 IAC 8-9]~~

~~Pursuant to 326 IAC 8-9-1(b), the liquid asphalt storage tank (Tank 10) is subject to the reporting and recordkeeping provisions of section 6(a) and 6(b) of this rule when the source is located in Clark or Floyd Counties.~~

~~D.1.7 Preventive Maintenance Plan [326 IAC 2-8-4(9)]~~

~~A Preventive Maintenance Plan is required for this facility and its control device. Section B-Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.~~

Compliance Determination Requirements

D.1.8 Sulfur Dioxide Emissions and Sulfur Content

Compliance shall be determined utilizing one of the following options.

- (a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed one and six tenths (1.6) pounds per MMBtu for residual oil combustion and five tenths (0.5) pounds per million Btu heat input for distillate oil combustion by:
 - (1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification; or
 - (2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
 - (A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
 - (B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
- (b) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the 96.8 MMBtu per hour burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to any of the methods specified in (a) or (b) above shall not be refuted by evidence of compliance pursuant to the other method.

D.1.9 Hydrogen Chloride (HCl) Emissions and Chlorine Content

The Permittee shall demonstrate that the chlorine content of the fuel used for the aggregate dryer burner does not exceed four tenths of a percent (0.40%) by weight, when operating on waste oil, by providing a vendor analysis of fuel delivered accompanied by a vendor certification.

D.1.10 Testing Requirements [326 IAC 2-8-4(3)]

The Permittee shall perform PM and PM10 stack testing utilizing methods as approved by the Commissioner to document the compliance status with Condition D.1.1(b). These tests shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. PM10 includes filterable and condensable PM10. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C—Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.1.11 Particulate Matter (PM and PM10)

- (a) In order to comply with Conditions D.1.1 and D.1.5, the baghouse for PM and PM10 control shall be in operation and control emissions from the aggregate dryer/mixer at all times that the aggregate dryer/mixer is in operation.

- (b) ~~— In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.~~

Compliance Monitoring Requirements ~~[326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]~~

~~D.1.12 Visible Emissions Notations~~

- (a) ~~— Visible emission notations of the aggregate dryer/mixer baghouse stack exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.~~
- (b) ~~— For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.~~
- (c) ~~— In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.~~
- (d) ~~— A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.~~
- (e) ~~— If abnormal emissions are observed, the Permittee shall take reasonable response steps. Section C—Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.~~

~~D.1.13 Broken or Failed Bag Detection~~

~~In the event that bag failure has been observed:~~

- (a) ~~— For a single compartment baghouses controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B—Emergency Provisions).~~
- (b) ~~— For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit have been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emission unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B—Emergency Provisions).~~

~~Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.~~

~~D.1.14 Parametric Monitoring~~

~~The Permittee shall record the pressure drop across the baghouse used in conjunction with the aggregate dryer/burner, at least once per day when the aggregate dryer/burner is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 2.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C—Response to Excursions or Exceedances contains~~

~~the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.~~

~~The instrument used for determining the pressure shall comply with Section C Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated or replaced at least once every six (6) months.~~

~~Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]~~

~~D.1.15 Record Keeping Requirements~~

- ~~(a) To document the compliance status with Condition D.1.1, the Permittee shall maintain monthly records of asphalt production.~~
- ~~(b) To document the compliance status with Conditions D.1.2, D.1.3, D.1.4, D.1.8, and D.1.9, the Permittee shall maintain records in accordance with (1) through (6) below:~~
- ~~(1) Calendar dates covered in the compliance determination period;~~
 - ~~(2) Actual fuel usage for natural gas, No. 2 fuel oil, refinery blend oil, No. 4 fuel oil, No. 5 fuel oil, No. 6 fuel oil, and waste oil since last compliance determination period and equivalent SO₂, NO_x, and HCl emissions;~~
 - ~~(3) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period.~~

~~If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:~~

- ~~(4) Fuel supplier certifications.~~
 - ~~(5) The name of the fuel supplier; and~~
 - ~~(6) A statement from the fuel supplier that certifies the sulfur content of the No. 2 fuel oil, refinery blend oil, Number 4 fuel oil, Number 5 fuel oil, Number 6 fuel oil, or waste oil, and a statement from the fuel supplier that certifies the chlorine content of the waste oil.~~
- ~~The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.~~
- ~~(c) To document the compliance status with Condition D.1.12, the Permittee shall maintain a daily record of visible emission notations of the aggregate dryer/mixer stack exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).~~
- ~~(d) To document the compliance status with Condition D.1.14, the Permittee shall maintain a daily record of the pressure drop across the baghouse. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for that lack of a pressure drop reading (e.g. the process did not operate that day).~~

- (e) ~~Section C – General Record Keeping Requirements, contains the Permittee’s obligation with regard to the records required by this condition.~~

D.1.16 Reporting Requirements

~~A quarterly summary of the information to document the compliance status with Conditions D.1.1, D.1.2, D.1.3 and D.1.4 shall be submitted no later than thirty (30) days after the end of the quarter being reported. Section C – General Reporting contains the Permittee’s obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meet the requirements of 326 IAC 2-8-5(a)(1) by an “authorized individual” as defined by 326 IAC 2-1.1-1(1).~~

New Source Performance Standards (NSPS) Requirements [326 IAC 2-7-5(1)]

~~D.1.17 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]~~

~~(a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60 Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1 for the asphalt plant except as otherwise specified in 40 CFR Part 60, Subpart I.~~

~~(b) Pursuant to 40 CFR 60.10, the Permittee shall submit all required notifications and reports to:~~

~~Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251~~

~~D.1.18 New Source Performance Standard for Hot Mix Asphalt Facilities Requirements [40 CFR Part 60, Subpart I] [326 IAC 12]~~

~~Pursuant to 40 CFR Part 60, Subpart I, the Permittee shall comply with the provisions of 40 CFR 60, Subpart I (New Source Performance Standards for Hot Mix Asphalt Facilities), which are incorporated by reference as 326 IAC 12 for the asphalt plant as follows.~~

Subpart I – Standards of Performance for Hot Mix Asphalt Facilities

§ 60.90 – Applicability and designation of affected facility.

~~(a) The affected facility to which the provisions of this subpart apply is each hot mix asphalt facility. For the purpose of this subpart, a hot mix asphalt facility is comprised only of any combination of the following: dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler; systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems.~~

~~(b) Any facility under paragraph (a) of this section that commences construction or modification after June 11, 1973, is subject to the requirements of this subpart.~~

~~[42 FR 37936, July 25, 1977, as amended at 51 FR 12325, Apr. 10, 1986]~~

§ 60.91 – Definitions.

~~As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.~~

~~(a) Hot mix asphalt facility means any facility, as described in §60.90, used to manufacture hot mix asphalt by heating and drying aggregate and mixing with asphalt cements.~~

~~[51 FR 12325, Apr. 10, 1986]~~

~~**§ 60.92 Standard for particulate matter.**~~

~~(a) On and after the date on which the performance test required to be constructed by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall discharge or cause the discharge into the atmosphere from any affected facility any gases which:~~

~~(1) Contain particulate matter in excess of 90 mg/dscm (0.04 gr/dscf).~~

~~(2) Exhibit 20 percent opacity, or greater.~~

~~[39 FR 9314, Mar. 8, 1974, as amended at 40 FR 46259, Oct. 6, 1975]~~

~~**§ 60.93 Test methods and procedures.**~~

~~(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).~~

~~(b) The owner or operator shall determine compliance with the particulate matter standards in §60.92 as follows:~~

~~(1) Method 5 shall be used to determine the particulate matter concentration. The sample time and sample volume for each run shall be at least 60 minutes and 0.90 dscm (31.8 dscf).~~

~~(2) Method 9 and the procedures in §60.11 shall be used to determine opacity.~~

~~[54 FR 6667, Feb. 14, 1989]~~

~~D.1.19 One Time Deadlines Relating to NSPS Subpart I~~

~~The Permittee shall comply with the following requirements by the dates listed below:~~

Requirement	Rule Citation	Affected Facility	Deadline
Notification of the date of construction commencement	40 CFR 60.7(a)(1)	Aggregate dryer/mixer	No later than 30 days after commencement of construction
Notification of initial startup and Compliance Report	40 CFR 60.7(a)(3)	Aggregate dryer/mixer	Within 15 days of startup

D.1.1 PSD Minor Limit [326 IAC 2-2]

In order to render 326 IAC 2-2 not applicable;

- (a) The amount of asphalt processed shall not exceed 1,359,521 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.**
- (b) The PM emissions from the dryer/mixer shall not exceed 0.288 pounds per ton of asphalt processed.**

Compliance with these limitations, combined with the limited potential to emit from other emission units at this source, shall limit the source-wide total potential to emit PM to less

than 250 tons per 12 consecutive month period and shall render 326 IAC 2-2 (PSD) not applicable.

D.1.2 FESOP Limits: PM10, PM2.5, and CO [326 IAC 2-8-4][326 IAC 2-2] [326 IAC 2-1.1-5]

Pursuant to 326 IAC 2-8-4, the Permittee shall comply with the following:

- (a) The amount of asphalt processed shall not exceed 1,359,521 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The PM10 emissions from the dryer/mixer shall not exceed 0.120 pounds per ton of asphalt processed.
- (c) The PM2.5 emissions from the dryer/mixer shall not exceed 0.132 pounds of PM2.5 per ton of asphalt produced.
- (d) The CO emissions from the dryer/mixer shall not exceed 0.130 pounds per ton of asphalt processed.

Compliance with these limits, combined with the potential to emit PM10, PM2.5, and CO from all other emission units at this source, shall limit the source-wide total potential to emit of PM10, PM2.5, and to less than 100 tons per 12 consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permits), and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), not applicable.

D.1.3 FESOP Limits: SO2, NOx, and HAPs [326 IAC 2-8-4] [326 IAC 2-2] [326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4, and in order to render 326 IAC 2-2 and 326 IAC 2-4.1 not applicable, the Permittee shall comply with the following:

(a) **Fuel and Slag Specifications**

- (1) The sulfur content of the No. 2 distillate fuel oil shall not exceed 0.50% by weight.
- (2) The sulfur content of the No. 4 residual fuel oil shall not exceed 1.0% by weight.
- (3) The sulfur content of the No. 5 and 6 residual fuel oils shall not exceed 1.0% by weight.
- (4) The sulfur content of the waste oil shall not exceed 1.0% by weight.
- (5) The waste oil combusted in the dryer burners shall not contain more than 0.7% ash, 0.40% chlorine, and 0.040% lead.
- (6) The sulfur content of the blast furnace slag shall not exceed 1.50% by weight.
- (7) The SO2 emissions from the dryer/mixer shall not exceed 0.740 pounds per ton of blast furnace slag processed in the aggregate mix.
- (8) The sulfur content of the steel slag shall not exceed 0.66% by weight.
- (9) The SO2 emissions from the dryer/mixer shall not exceed 0.0014 pounds per ton of Steel slag processed in the aggregate mix.

(b) Single Fuel and Slag Usage Limitations:

When combusting only one type of fuel per twelve (12) consecutive month period in the dryer/mixer burner, the usage of fuel shall be limited as follows:

- (1) Waste oil usage shall not exceed 750,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month;**
- (2) No. 2 fuel oil usage shall not exceed 2,011,134 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month;**
- (3) No. 4 fuel oil usage shall not exceed 909,494 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month;**
- (4) No. 5, fuel oil usage shall not exceed 909,494 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month;**
- (5) No. 6 fuel oil usage shall not exceed 909,494 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month;**
- (6) Natural gas usage shall not exceed 732.47 cubic feet (MMCF) per twelve (12) consecutive month period, with compliance determined at the end of each month.**
- (7) Fuel oil #2 usage in the generator shall not exceed 120,000 gallons per consecutive twelve (12) month period, with compliance to be determined at the end of each month.**
- (8) The Blast Furnace slag usage shall not exceed 50,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.**
- (9) The Steel Slag usage shall not exceed 679,761 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.**

Note: The source is only permitted to burn the above-mentioned fuels.

(c) Multiple Fuel and Slag Usage Limitation:

When combusting more than one fuel per twelve (12) consecutive month period in the dryer/mixer burner, in conjunction with the use of slag in the aggregate mix, emissions from the dryer/mixer burner and generator shall be limited as follows:

- (1) SO₂ emissions from the dryer/mixer burner and generator shall not exceed 94.65 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.**
- (2) NO_x emissions from the dryer/mixer burner and generator shall not exceed 97.77 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.**

- (3) HCl emissions from the dryer/mixer burner shall not exceed 9.90 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (4) CO₂ equivalent emissions (CO₂e) from the dryer/mixer burner and generator shall not exceed 45,643.78 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(d) **Asphalt Shingle Usage Limitation**

Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAPs)) not applicable, the Permittee shall not grind recycled asphalt shingles on-site and shall only use certified asbestos-free recycled shingles, post consumer waste and/or factory seconds, as an additive in its aggregate mix.

Compliance with these limits, combined with the potential to emit SO₂, NO_x, and HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of SO₂ and NO_x to less than 100 tons per twelve (12) consecutive month period, each, any single HAP to less than ten (10) tons per twelve (12) consecutive month period, total HAPs to less than twenty-five (25) tons per twelve (12) consecutive month period, and greenhouse gases (GHGs) to less than 100,000 tons of CO₂ equivalent emissions (CO₂e) per 12 consecutive month period and shall render the requirements of 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP) not applicable.

D.1.4 VOC [326 IAC 8-1-6]

In order to render 326 IAC 8-1-6 not applicable, the Permittee shall comply with the following:

- (a) The amount of asphalt processed shall not exceed 1,387,545 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The VOC emissions from the dryer/mixer shall not exceed 0.032 pounds per ton of asphalt processed.

Compliance with these limits shall 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities) not applicable.

D.1.5 Hazardous Air Pollutants (HAPs) [326 IAC 2-8-4][326 IAC 2-2][326 IAC 2-4.1]

Pursuant to 326 IAC 2-8-4, the Permittee shall comply with the following fuel limitations combusted in the dryer/mixer burner and all other combustion equipment:

- (a) The waste oil usage in the dryer/mixer burner shall not exceed 750,000 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The HCl emissions shall not exceed 26.4 pounds of HCl per 1,000 gallons of waste oil burned.
- (c) The waste oil combusted shall not contain more than 0.70% ash, 0.400% chlorine, and 0.04% Lead.
- (d) The Permittee shall use only certified asbestos-free factory second and/or post consumer waste shingles as an additive in its aggregate mix.

Compliance with these limits, combined with the limited PTE from all other emission units at this source, shall limit the source-wide total potential to emit of any single HAP to less than 10 tons per 12 consecutive month period, and any combination of HAPs to less than 25 tons per 12 consecutive month period, and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (PSD), and 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) not applicable.

D.1.6 Particulate Matter (PM) [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations except Lake County), particulate matter (PM) emissions from the aggregate mixing and drying operation, shall be limited to 0.03 grains per dry standard cubic foot (gr/dscf), when operating in the counties listed in 326 IAC 6.5-1-1(a).

D.1.7 Sulfur Dioxide (SO₂) [326 IAC 7-1.1-1] [326 IAC 7-2-1]

(a) Pursuant to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations), the Permittee shall comply with the following:

- (1) The sulfur dioxide (SO₂) emissions from the dryer/mixer burner shall not exceed five tenths (0.5) pounds per MMBtu when using distillate oil.**
- (2) The sulfur dioxide (SO₂) emissions from the dryer/mixer burner shall not exceed one and six tenths (1.6) pounds per MMBtu heat input when using residual oil.**

Note: No. 2 fuel oil is considered distillate oil, and No. 4, 5, 6, blend fuel oils and waste oil are considered residual oil.

(b) Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average.

D.1.8 Volatile Organic Liquid Storage Vessels [326 IAC 8-9]

Pursuant to 326 IAC 8-9-1(b), the liquid asphalt storage tank (Tank 10) is subject to the reporting and recordkeeping provisions of section 6(a) and 6(b) of this rule when the source is located in Clark or Floyd Counties.

D.1.9 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan is required for these facilities and any corresponding control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.1.10 Particulate Control

- (a) In order to comply with Conditions D.1.1(b), D.1.2(b), D.1.2(c), and D.1.6, the baghouse for particulate control shall be in operation and control emissions from the dryer/mixer at all times when the dryer/mixer is in operation.**
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.**

D.1.11 Testing Requirements

- (a) In order to demonstrate compliance with Conditions D.1.1(b), D.1.2(b), and D.1.2(c), the Permittee shall perform PM, PM10, and PM2.5 testing on stack SV1, not later than five (5) years from the most recent valid compliance demonstration, utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition. PM10 and PM2.5 includes filterable and condensable particulate matter.

- (b) In order to demonstrate compliance with Condition D.1.3(a)(8), when using Blast Furnace slag, the Permittee shall perform SO2 testing on stack SV1, within one hundred eighty (180) days of initial use of Blast Furnace slag in the aggregate mix, utilizing methods as approved by the Commissioner. Testing shall only be performed if the company has not previously performed SO2 testing while using Blast Furnace slag in the aggregate mix at one of their other Indiana facilities. Testing shall be conducted in accordance with Section C- Performance Testing.

D.1.12 Sulfur Dioxide (SO₂) Emissions and Sulfur Content

Fuel Oil

- (a) Pursuant to 326 IAC 3-7-4 and 326 IAC 2-8-4, compliance with the fuel limitations established in Conditions D.1.3(a) and D.1.7, shall be determined utilizing one of the following options. Compliance shall be demonstrated on a thirty (30) day calendar-month average.
 - (1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification; or
 - (2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.
 - (A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and
 - (B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.
 - (3) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to any of the methods specified in (1) or (2) or (3) above shall not be refuted by evidence of compliance pursuant to the other method.

Blast Furnace Slag

- (b) Pursuant to 326 IAC 2-8-4, compliance with the blast furnace slag and steel slag limitation established in Condition D.1.3(a)(7) shall be determined utilizing one of the following options. Compliance shall be demonstrated on a thirty (30) day calendar-month average.
 - (1) Maintaining all records of vendor analyses or certifications of blast furnace slag delivered; or

- (2) Analyzing a sample of each blast furnace slag delivery, if no vendor analyses or certifications are available, to determine the sulfur content of the blast furnace slag, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.
- (3) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6, or other procedures approved by IDEM, OAQ.

A determination of noncompliance pursuant to any of the methods specified in (1) or (2) or (3) above shall not be refuted by evidence of compliance pursuant to the other method.

Steel Slag

- (c) Pursuant to 326 IAC 2-8-4, compliance with the steel slag limitations established in Condition D.1.3(a)(9) shall be determined utilizing one of the following options. Compliance shall be demonstrated on a thirty (30) day calendar-month average.
 - (1) Maintaining all records of vendor analyses or certifications of steel slag delivered; or
 - (2) Analyzing a sample of the steel slag delivery if no vendor analyses or certifications are available, at least once per quarter, to determine the sulfur content of the steel slag, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.
 - (3) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the burner, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6, or other procedures approved by IDEM, OAQ.

A determination of noncompliance pursuant to any of the methods specified in (1) or (2) or (3) above shall not be refuted by evidence of compliance pursuant to the other method.

D.1.13 Hydrogen Chloride (HCl) Emissions and Ash, Chlorine, and Lead Content

The Permittee shall demonstrate compliance with the waste oil ash, chlorine, and lead content limits established in Condition D.1.5(c) by providing a vendor analysis of each fuel delivery accompanied by a vendor certification.

D.1.14 Multiple Fuel and Slag Usage

In order to determine comply with the Condition D.1.3(c) when combusting more than one fuel per twelve (12) consecutive month period in the dryer/mixer burner, in conjunction with the use of slag in the aggregate mix, the Permittee shall use to the following formulas:

(a) **Sulfur Dioxide (SO₂) Emission Calculation**

$$SO_2 = \frac{N(E_N) + O(E_O) + T(E_T) + W(E_W) + G(E_G) + B(E_B) + S(E_S)}{2,000 \text{ lbs/ton}}$$

where:

SO₂= tons of sulfur dioxide emissions for a 12-month consecutive period
N = million cubic feet of natural gas used in the dryer/mixer burner in the last 12 months
O = gallons of No. 2 fuel oil used in the dryer/mixer burner in the last 12 months
T = gallons of No. 4, 5, 6 fuel oils used in the dryer/mixer burner in the last 12 months
W = gallons of waste oil used in the dryer/mixer in the burner last 12 months
G = gallons of No.2 fuel used in the generator in the last 12 months
B = tons of blast furnace slag used in the dryer/mixer in the last 12 months
S = tons of steel slag used in the in the dryer/mixer last 12 months

E_N = 0.60 lb/million cubic feet of natural gas
E_O = 71.0 lb/1000 gallons of No. 2 fuel oil
E_T = 157.0 lb/1000 gallons of No. 4, 5, 6 fuel oils
E_W = 147 lb/1000 gallons of waste oil
E_G = 79.18 lb/1000 gallons of oil in the generator
E_B = 0.74 lb/ton of blast furnace slag used
E_S = 0.0014 lb/ton of steel slag used

(b) **Nitrogen Oxides (NOx) Emission Calculation:**

$$\text{NOx} = \frac{N(E_N) + O(E_O) + T(E_T) + W(E_W) + G(E_G)}{2,000 \text{ lbs/ton}}$$

where:

NOx= tons of nitrogen oxide emissions for a 12-month consecutive period;
N = million cubic feet of natural gas used in the dryer/mixer burner in the last 12 months
O = gallons of No. 2 fuel oil used in the dryer/mixer burner in the last 12 months
T = gallons of No. 4, 5, 6 fuel oils used in the dryer/mixer burner in the last 12 months
W = gallons of waste oil used in the dryer/mixer in the burner last 12 months
G = gallons of No.2 fuel used in the generator in the last 12 months

E_N = 190 lb/million cubic feet of natural gas
E_O = 24.0 lb/1000 gallons of No. 2 fuel oil
E_T = 47.0 lb/1000 gallons of No. 4, 5, 6 fuel oils
E_W = 19.0 lb/1000 gallons of waste oil
E_G = 469.82 lb/1000 gallons of No.2 oil used in the generator

(c) **HCl emissions Calculation:**

$$\text{HCl} = \frac{W(E_W)}{2,000 \text{ lbs/ton}}$$

where:

HCl = tons of Hydrogen Chloride emissions for twelve (12) month consecutive period
W = gallons of waste oil used in the last 12 months
E_W = 26.4 lb/1000 gallons of waste oil

(d) **CO_{2e} emissions Calculation:**

$$\text{CO}_2\text{e} = \sum [(\text{CO}_2 \times \text{CO}_2 \text{ GWP}) + (\text{CH}_4 \times \text{CH}_4 \text{ GWP}) + (\text{N}_2\text{O} \times \text{N}_2\text{O} \text{ GWP})]$$

Where:

CO_2e = tons of CO_2e equivalent emissions for last 12 consecutive month period;

Greenhouse Warming Potentials (GWP)

Carbon dioxide (CO_2 GWP) = 1
Methane (CH_4 GWP) = 21
Nitrous oxide (N_2O GWP) = 310

$$\text{CO}_2 = \frac{[\text{N}(\text{X}_\text{N}) + \text{O}(\text{X}_\text{O}) + \text{T}(\text{X}_\text{T}) + \text{W}(\text{X}_\text{W}) + \text{G}(\text{X}_\text{G})]}{2,000}$$

$$\text{CH}_4 = \frac{[\text{N}(\text{X}_\text{N}) + \text{O}(\text{X}_\text{O}) + \text{T}(\text{X}_\text{T}) + \text{W}(\text{X}_\text{W}) + \text{G}(\text{X}_\text{G})]}{2,000}$$

$$\text{N}_2\text{O} = \frac{[\text{N}(\text{X}_\text{N}) + \text{O}(\text{X}_\text{O}) + \text{T}(\text{X}_\text{T}) + \text{W}(\text{X}_\text{W}) + \text{G}(\text{X}_\text{G})]}{2,000}$$

CO_2 = tons of CO_2 emissions for last 12 consecutive month period;

CH_4 = tons of CH_4 emissions for last 12 consecutive month period; and

N_2O = tons of N_2O emissions for last 12 consecutive month period

N = million cubic feet of natural gas used in the dryer/mixer burner in the last 12 months

O = gallons of No. 2 fuel oil used in the dryer/mixer burner in the last 12 months

T = gallons of No. 4, 5, 6 fuel oils used in the dryer/mixer burner in the last 12 months

W = gallons of waste oil used in the dryer/mixer in the burner last 12 months

G = gallons of No.2 fuel used in the generator in the last 12 months

For CO_2 :

X_N = $120,161.84 \times 10^{-6}$ pounds per cubic feet of natural gas;

X_O = $22,501.41 \times 10^{-3}$ pounds per gallon of No. 2 fuel oil;

X_T = $24,835.04 \times 10^{-3}$ pounds per gallon of No. 4, 5, 6 fuel oils;

X_W = $22,024.15 \times 10^{-3}$ pounds per gallon of waste oil; and

X_G = $22,707.83 \times 10^{-3}$ pounds per gallon of No. 2 fuel oil in the generator

For CH_4 :

X_N = 2.49×10^{-6} pounds per cubic feet of natural gas;

X_O = 0.91×10^{-3} pounds per gallon of No. 2 fuel oil;

X_T = 1.0×10^{-3} pounds per gallon of No. 4, 5, 6 fuel oils;

X_W = 0.89×10^{-3} pounds per gallon of waste oil; and

X_G = 1.24×10^{-3} pounds per gallon of No. 2 fuel oil in the generator

For N_2O :

X_N = 2.2×10^{-6} pounds per cubic feet of natural gas;

X_O = 0.26×10^{-3} pounds per gallon of No. 2 fuel oil;

X_T = 0.53×10^{-3} pounds per gallon of No. 4, 5, 6 fuel oils;

X_W = 0.18×10^{-3} pounds per gallon of waste oil; and

X_G = 0.18×10^{-3} pounds per gallon of No. 2 fuel oil in the generator

D.1.15 Shingle Asbestos Content

Pursuant to 326 IAC 2-8-4, compliance with Condition D.1.3(d) shall be determined utilizing one of the following options:

- (1) Providing shingle supplier certification that the recycled asphalt shingles (factory seconds and/or post consumer waste) do not contain asbestos; or
- (2) Analyzing a sample of the recycled asphalt shingles (factory seconds and/or post consumer waste) delivery to determine the asbestos content of the shingles, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A determination of noncompliance pursuant to any of the methods specified above shall not be refuted by evidence of compliance pursuant to the other method.

Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

D.1.16 Visible Emissions Notations

- (a) Visible emission notations from the conveyors, screens, material transfer points, and dryer/mixer stack (SV1) exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An abnormal visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.1.17 Parametric Monitoring

The Permittee shall record the pressure drop across the baghouses used in conjunction with the dryer/mixer, at least once per day when the dryer/mixer are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of two (2.0) and eight (8.0) inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months, or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer specifications, if used.

D.1.18 Broken or Failed Bag Detection

In the event that bag failure has been observed:

- (a) For a single compartment baghouses controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).**
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).**

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces, or triboflows.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.1.19 Record Keeping Requirements

- (a) To document the compliance status with Conditions D.1.1(a), D.1.2(a), and D.1.4(a) the Permittee shall keep monthly records of the amount of asphalt processed through the dryer/mixer.**
- (b) To document the compliance status with Conditions D.1.3, and D.1.7, the Permittee shall maintain records in accordance with (1) through (10) below. Records maintained for (1) through (10) below shall be taken monthly and shall be complete and sufficient to establish compliance with the limits established in Conditions D.1.3 and D.1.7.**
 - (1) Calendar dates covered in the compliance determination period;**
 - (2) Actual fuel usage, sulfur content, heat content, and equivalent sulfur dioxide, emission rates for each fuel used at the source since the last compliance determination period;**
 - (3) Actual waste oil usage, ash, chlorine, and lead content, and equivalent hydrogen chloride emission rate for waste oil used at the source since the last compliance determination period;**
 - (4) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period; and**

- (5) If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:**

 - (i) Fuel supplier certifications;**
 - (ii) The name of the fuel supplier; and**
 - (iii) A statement from the fuel supplier that certifies the sulfur content of the No. 2, 4, 5, 6 and waste oil, and the ash, chlorine, and lead content of waste oil.**
- (6) Actual blast furnace and steel slag usage, sulfur content and equivalent sulfur dioxide emission rates for all blast furnace and steel slag used at the source since the last compliance determination period;**
- (7) A certification, signed by the owner or operator, that the records of the blast furnace and steel slag supplier certifications represent all of the blast furnace and steel slag used during the period; and**
- (8) If the slag supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:**

 - (i) Blast furnace and steel slag supplier certifications;**
 - (ii) The name of the blast furnace and steel slag supplier; and**
 - (iii) A statement from the blast furnace and steel slag supplier that certifies the sulfur content of the blast furnace and steel slag.**
- (9) A certification, signed by the owner or operator, that the records of the shingle supplier certifications represent all of the shingles used during the period; and**
- (10) If the shingle supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:**

 - (i) Shingle supplier certifications;**
 - (ii) The name of the shingle supplier(s); and**
 - (iii) A statement from the shingle supplier(s) that certifies the asbestos content of the shingles from their company.**
- (d) To document the compliance status with Condition D.1.16, the Permittee shall maintain records of visible emission notations of the dryer/mixer stack (SV1) and exhaust once per day. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).**
- (e) To document the compliance status with Condition D.1.17, the Permittee shall maintain records once per day of the pressure drop during normal operation. The Permittee shall include in its daily record when the pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g., the process did not operate that day).**

- (f) **Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.**

D.1.20 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.1.1(a), D.1.2(a), D.1.3, and D.1.4(a), shall be submitted using the reporting forms located at the end of this permit, or their equivalent, not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Insignificant Activities

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(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

- D.3.1 FESOP, and Minor PSD and Emission Offset Limits for PM, and PM10 and PM2.5 [326 IAC 2-8-4] [326 IAC 2-2][326 IAC 2-3]

Pursuant to 326 IAC 2-8, the Permittee shall sweep paved roads as needed and spray water on unpaved areas as needed in order to control PM, and PM10 and PM2.5 emissions from paved and unpaved roads. Compliance with this limit, combined with the PM, and PM10 and PM2.5 emissions from other units at this source, will render the requirements of 326 IAC 2-7 (Part 70 Permit Program), and 326 IAC 2-2 (PSD), and 326 IAC 2-3 (Emission Offset) not applicable.

SECTION E.1 NSPS REQUIREMENTS

Emissions Unit Description: Hot-mix Asphalt Plant

- (a) One (1) hot drum mix asphalt plant, constructed in 1987 (unless otherwise specified for specific units), approved for modification in 2012 to use the steel slag, blast furnace slag and ground certified asbestos-free shingle, consisting of the following:
 - (1) One (1) aggregate drum mix dryer, identified as emission unit No. 2, with a maximum capacity of 300 tons per hour, equipped with one (1) No. 2 distillate fuel oil fired aggregate dryer burner with a maximum rated capacity of 123 million (MM) British thermal units (Btu) per hour using natural gas, refinery blend fuel oil, No. 4 fuel oil, No. 5 fuel oil, No. 6 fuel oil, or waste oil as back-up fuels and one (1) cyclone and baghouse in series for air pollution control, exhausting at one (1) stack, identified as SV1;

- (2) **Material conveying and handling operations consisting of the following:**
- (A) One (1) drag slat conveyor, three (3) feeder conveyors, and one (1) screen;
 - (B) One (1) cold feed system consisting of four (4) compartments with a total aggregate holding capacity of 100 tons;
 - (C) One (1) Recycled Asphalt Pavement (RAP) feed bin with a maximum holding capacity of 25 tons; and
 - (D) One (1) Recycled Asphalt Ground Shingle feed bin with a maximum holding capacity of 25 tons.
- (3) One (1) liquid asphalt storage tank, identified as Tank 10, constructed in 1979, with a maximum storage capacity of 25,000 gallons, exhausting at one (1) stack, identified as SV3;
- (4) One (1) hot mix asphalt cement storage silo with a maximum storage capacity of 300 tons;
- (5) Aggregate storage piles of stone, RAP, shingles, and slags, with a maximum storage capacity of 54,000 tons.
- Above units are considered an affected source under 40 CFR 60, Subpart I.
- (The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

New Source Performance Standards (NSPS) Requirements [326 IAC 2-8-4(1)]

E.1.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

- (a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, except as otherwise specified in 40 CFR 60, Subpart I.
- (b) Pursuant to 40 CFR 60.10, the Permittee shall submit all required notifications and reports to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

E.1.2 New Source Performance Standards (NSPS) for Hot-mix Asphalt Facilities [40 CFR Part 60, Subpart I] [326 IAC 12]

The Permittee shall comply with the following provisions of 40 CFR Part 60, which are incorporated by reference as 326 IAC 12, except as otherwise specified in 40 CFR Part 60, Subpart I (included as Attachment B of this permit):

- (a) 40 CFR 60.90
- (b) 40 CFR 60.91
- (c) 40 CFR 60.92

(d) 40 CFR 60.93

E.1.3 Testing Requirements

The Permittee shall perform the stack testing required under NSPS 40 CFR 60, Subpart I, utilizing methods as approved by the Commissioner to document compliance with Condition E.1.2. These tests shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

SECTION E.2 NESHAP REQUIREMENTS

Emissions Unit Description: Generator

(3) One (1) low sulfur No. 2 distillate fuel oil fired reciprocating internal combustion generator, identified as emission unit 13, rated at 880 HP/hr, exhausting at one (1) stack, identified as SV5.

Under 40 CFR 63, Subpart ZZZZ, this unit is considered an affected facility.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

National Emission Standards for Hazardous Air Pollutants (NESHAPs) Requirements [326 IAC 2-8-4(1)]

E.2.1 General Provisions Relating to NESHAP [40 CFR Part 63, Subpart A] [326 IAC 20-1]

Pursuant to 40 CFR 63, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions for generator, which are incorporated by reference as 326 IAC 20-1, except as otherwise specified in 40 CFR 63, Subpart ZZZZ.

E.2.2 NESHAP for Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]

(a) The existing generator, is subject to the requirements of the 40 CFR Part 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary reciprocating internal combustion engine (RICE), which are incorporated by reference as 326 IAC 20-82, except as otherwise specified in 40 CFR Part 63, Subpart ZZZZ (included as Attachment C of this permit) as follows:

E.2.3 Testing Requirements [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]

The Permittee shall perform the testing required under NESHAP 40 CFR 63, Subpart ZZZZ, utilizing methods as approved by the Commissioner to document compliance with Condition E.2.2 within 180 days after the initial use. (This initial testing is not required for this generator, if this unit had been previously tested and the test met all of the conditions in 40 CFR 63.6612 (b)(1) through (4).) These tests shall be repeated after every 8,760 hours of operation or at least once every three (3) years from the date of the last valid compliance demonstration, whichever comes first. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
COMPLIANCE AND ENFORCEMENT BRANCH,
OFFICE OF AIR QUALITY**

FESOP Quarterly Report

Source Name: _____ Brooks Construction Company, Inc. _____
 Source Address: _____ 8700 South CR 600 West, Daleville, Indiana 47334 _____
 FESOP Permit No.: _____ 035-26262-03291 _____
 Facility: _____ Aggregate Dryer/Mixer _____
 Parameter: _____ Fuel Oil Usage _____
 Limit: _____ Less than 2,349,600 gallons of No. 2 fuel oil or equivalent per twelve (12) consecutive month period with compliance determined at the end of each month. _____

For the purpose of determining compliance with this limit, every thousand gallons of No. 2 fuel oil shall be considered equivalent to 500 gallons of refinery blend oil, fuel oil No. 4, fuel oil No. 5, fuel oil No. 6, or waste oil. However, the usage of refinery blend oil, fuel oil No. 4, fuel oil No. 5, or fuel oil No. 6 shall in no case exceed 1,174,800 gallons per twelve (12) consecutive month period. The waste oil usage shall in no case exceed 750,000 gallons per twelve (12) consecutive month period.

The sulfur content of the No. 2 fuel oil used in the aggregate dryer burner shall not exceed 0.5% by weight. The sulfur content of the refinery blend oil, fuel oil No. 4, fuel oil No. 5, fuel oil No. 6, or waste oil used in the aggregate dryer burner shall not exceed 1.0% by weight.

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	No. 2 Fuel Oil & Equivalent Usage This Month (gallons)	No. 2 Fuel Oil & Equivalent Usage Previous 11 Months (gallons)	No. 2 Fuel Oil & Equivalent Usage 12 Month Total (gallons)
Month 1			
Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
 Deviation has been reported on: _____

Submitted by: _____
 Title / Position: _____
 Signature: _____
 Date: _____
 Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 COMPLIANCE AND ENFORCEMENT BRANCH
 OFFICE OF AIR QUALITY**

FESOP Quarterly Report

Source Name: _____ Brooks Construction Company, Inc. _____
 Source Address: _____ Portable _____
 FESOP Permit No.: _____ 035-26262-03291 _____

Facility: _____ Generator (Emission Unit 13)
 Parameter: _____ Fuel Oil Usage
 Limit: _____ Less than 120,000 U.S. gallons of No. 2 fuel oil per twelve (12) consecutive month period with compliance determined at the end of each month.

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	No. 2 Fuel Oil Usage This Month (gallons)	No. 2 Fuel Oil Usage Previous 11 Months (gallons)	No. 2 Fuel Oil Usage 12 Month Total (gallons)
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.

— Deviation has been reported on: _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 COMPLIANCE AND ENFORCEMENT BRANCH
 OFFICE OF AIR QUALITY**

FESOP Quarterly Report

Source Name: _____ Brooks Construction Company, Inc. _____

Source Address: _____ Portable _____

FESOP Permit No.: _____ 035-26262-03291

Facility: _____ Aggregate Dryer/Mixer

Parameter: _____ Natural Gas Usage

Limit: _____ Less than 638.4 million standard cubic feet (MMscf) per twelve (12) consecutive month period with compliance determined at the end of each month.

YEAR: _____

	Column 1	Column 2	Column 1 + Column 2

Month	Natural Gas Usage This Month (MMscf)	Natural Gas Usage Previous 11 Months (MMscf)	Natural Gas Usage 12 Month Total (MMscf)
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.

— Deviation has been reported on: _____

Submitted by: _____
 Title / Position: _____
 Signature: _____
 Date: _____
 Phone: _____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE AND ENFORCEMENT BRANCH

FESOP Quarterly Report

Source Name: Brooks Construction Company, Inc.
 Source Address: (Portable)
 FESOP Permit No.: F 035-26262-03291
 Facility: Asphalt Plant
 Parameter: Asphalt Production
 Limit: ~~Less than~~ **The amount of asphalt processed shall not exceed 1,359,521 tons per twelve (12) consecutive month period with compliance determined at the end of each month.**

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			

Month 2			
Month 3			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
 Deviation has been reported on: _____

Submitted by: _____
 Title / Position: _____
 Signature: _____
 Date: _____
 Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE AND ENFORCEMENT BRANCH**

FESOP Quarterly Report

Page 1 of 2

Source Name: Brooks Construction Company, Inc.
Source Address: (Portable)
FESOP Permit No.: F 035-26262-03291
Facility: Dryer/Mixer Burner and generator
Parameter: Fuel & Slag Usage / SO₂, NO_x, HCl and CO₂e emissions
Emission Limits: Sulfur dioxide (SO₂) emissions shall not exceed 94.65 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.14(a).
Nitrogen oxides (NO_x) emissions shall not exceed 97.77 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.14(b)
Hydrogen Chloride (HCl) emissions shall not exceed 9.90 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.14(c).
CO₂ equivalent (CO₂e) emissions shall not exceed 45,643.78 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, using the equation found in Condition D.1.14(d).
Fuel & Slag Limits: When combusting only one type of fuel per twelve (12) consecutive month

period in the dryer/mixer burner, in conjunction with the use of slag in the aggregate mix, fuel and slag usage shall not exceed the following:

Fuel and Slag (Units)	Usage Limits (Per 12 consecutive month period)
Natural gas (million cubic feet (MMCF))	732.47
No. 2 Distillate Fuel Oil (gallons)	2,011,134
No. 4 Fuel Oil (gallons)	909,494
No. 5 Fuel Oil (gallons)	909,494
No. 6 Fuel Oil (gallons)	909,494
Waste Oil (gallons)	750,000
No. 2 Fuel Oil in Generator (gallons)	120,000
Blast Furnace Slag (tons)	50,000
Steel Slag (tons)	679,761

QUARTER: _____ YEAR: _____

Month	Fuel Types / Slag (units)	Column 1	Column 2	Column 1 + Column 2	Equation Results			
		Usage This Month	Usage Previous 11 Months	Usage 12 Month Total	Sulfur Dioxide (SO ₂) Emissions (tons per 12 months)	Nitrogen Oxides (NO _x) Emissions (tons per 12 months)	Hydrogen Chloride (HCl) Emissions (tons per 12 months)	CO ₂ equivalent (CO ₂ e) Emissions (tons per 12 months)
Month 1	Natural gas (MMCF)							
	No. 2 Fuel Oil (gallons)							
	No. 4, 5, 6 Fuel Oils (gallons)							
	No. 2 Fuel Oil (gallons) in the generator							
	Waste Fuel Oil (gallons)							
	Blast Furnace Slag (tons)							
	Steel Furnace Slag (tons)							
Month 2	Natural gas (MMCF)							
	No. 2 Fuel Oil (gallons)							
	No. 4, 5, 6 Fuel Oils (gallons)							
	No. 2 Fuel Oil (gallons) in the generator							
	Waste Fuel Oil (gallons)							
	Blast Furnace Slag (tons)							
	Steel Furnace Slag (tons)							
Month 3	Natural gas (MMCF)							
	No. 2 Fuel Oil (gallons)							
	No. 4, 5, 6 Fuel Oils (gallons)							
	No. 2 Fuel Oil (gallons) in the generator							

	Waste Fuel Oil (gallons)							
	Blast Furnace Slag (tons)							
	Steel Furnace Slag (tons)							

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
 Deviation has been reported on: _____

Submitted by: _____
 Title / Position: _____
 Signature: _____
 Date: _____
 Phone: _____

.....

QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

.....

This report shall be submitted quarterly based on a calendar year. **Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C-General Reporting.** Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period@."

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on September 14, 2012. Additional information was received on November 14, 2012.

The construction and operation of this proposed revision shall be subject to the conditions of the attached proposed FESOP Significant Permit Revision No. 015 - 32317 - 03291. The staff recommends to the Commissioner that this FESOP Significant Permit Revision be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Ms. Renee Traivaranon at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5615 or toll free at 1-800-451-6027 extension 234-5615.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM’s Guide for Citizen Participation and Permit Guide on the Internet at: www.in.gov/idem

**Appendix A.1: Unlimited Emissions Calculations
Entire Source - Drum Mix**

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

Asphalt Plant Maximum Capacity - Drum Mix

Maximum Hourly Asphalt Production =	300	ton/hr									
Maximum Annual Asphalt Production =	2,628,000	ton/yr									
Maximum Annual Blast Furnace Slag Usage =	1,103,760	ton/yr	1.5	% sulfur							
Maximum Annual Steel Slag Usage =	1,103,760	ton/yr	0.66	% sulfur							
Maximum Dryer Fuel Input Rate =	123.0	MMBtu/hr									
Natural Gas Usage =	1,077	MMCF/yr									
No. 2 Fuel Oil Usage =	7,696,286	gal/yr, and	0.50	% sulfur							
No. 4 Fuel Oil Usage =	7,696,286	gal/yr, and	1.00	% sulfur							
Residual (No. 5 or No. 6, blend) Fuel Oil Usage =	7,696,286	gal/yr, and	1.00	% sulfur							
Propane Usage =	0	gal/yr, and	0.20	gr/100 ft3 sulfur							
Butane Usage =	0	gal/yr, and	0.22	gr/100 ft3 sulfur							
Used/Waste Oil Usage =	7,696,286	gal/yr, and	1.00	% sulfur	0.70	% ash	0.400	% chlorine,	0.040	% lead	
Diesel Fuel Usage - Generator < 600 HP =	0	gal/yr, and									
Diesel Fuel Usage - Generator > 600 HP =	393,794	gal/yr	0.50	% sulfur							
Unlimited PM Dryer/Mixer Emission Factor =	28.0	lb/ton of asphalt production									
Unlimited PM10 Dryer/Mixer Emission Factor =	6.5	lb/ton of asphalt production									
Unlimited PM2.5 Dryer/Mixer Emission Factor =	1.5	lb/ton of asphalt production									
Unlimited VOC Dryer/Mixer Emission Factor =	0.032	lb/ton of asphalt production									
Unlimited CO Dryer/Mixer Emission Factor =	0.13	lb/ton of asphalt production									
Unlimited Blast Furnace Slag SO2 Dryer/Mixer Emission Factor =	0.74	lb/ton of slag processed									
Unlimited Steel Slag SO2 Dryer/Mixer Emission Factor =	0.0014	lb/ton of slag processed									

Unlimited/Uncontrolled Emissions

Process Description	Unlimited/Uncontrolled Potential to Emit (tons/year)									
	Criteria Pollutants							Greenhouse Gas Pollutants	Hazardous Air Pollutants	
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	CO ₂ e	Total HAPs	Worst Case HAP
Ducted Emissions										
Dryer Fuel Combustion (worst case)	172.40	137.38	137.38	604.16	180.86	3.85	45.25	96,281.86	112.65	101.59 (hydrogen chloride)
Dryer/Mixer (Process)	36,792.00	8,541.00	1,971.00	76.21	72.27	42.05	170.82	43,693.13	14.01	4.07 (formaldehyde)
Dryer/Mixer Slag Processing (worst case)	0	0	0	408.39	0	0	0	0.00	0	0
Hot Oil Heater Fuel Combustion/Process (worst case)	0.12	0.20	0.20	4.35	1.23	0.05	0.72	1,716.96	0.020	0.015 (hexane)
Diesel-Fired Generator < 600 HP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.000 (formaldehyde)
Diesel-Fired Generator > 600 HP	2.70	1.55	1.55	15.59	92.51	2.72	21.20	4,487.30	0.042	0.021 (benzene)
Worst Case Emissions*	36,794.82	8,542.75	1,972.75	1,032.49	274.59	44.81	192.74	102,486.12	112.71	101.59 (hydrogen chloride)
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard	1.46	1.46	1.46	0	0	22.51	3.79	0	0.38	0.12 (formaldehyde)
Material Storage Piles	0.86	0.30	0.30	0	0	0	0	0	0	0
Material Processing and Handling	8.49	4.02	0.61	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	34.95	12.23	12.23	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	54.60	13.92	1.39	0	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	0.00	0	0	0.00	0.00 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.00	0	0	0.00	0.00 (xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	0	negl	0
Total Fugitive Emissions	100.36	31.92	15.99	0.00	0.00	22.51	3.79	0.00	0.38	0.00 (xylenes)
Totals Unlimited/Uncontrolled PTE	36,895.19	8,574.67	1,988.74	1,032.49	274.59	67.32	196.53	102,486.12	113.09	101.59 (hydrogen chloride)

negl = negligible

Worst Case Fuel Combustion is based on the fuel with the highest emissions for each specific pollutant.

*Worst Case Emissions (tons/yr) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer + Worst Case Emissions From Dryer/Mixer Slag Processing + Worst Case Emissions from Hot Oil Heater Fuel Combustion and Hot Oil Heating System + Diesel-Fired Generator < 600 HP + Diesel-Fired Generator > 600 HP
 Fuel component percentages provided by the source.

**Appendix A.1: Unlimited Emissions Calculations
Dryer/Mixer Fuel Combustion with Maximum Capacity > 100 MMBtu/hr**

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivanaron

The following calculations determine the unlimited/uncontrolled emissions created from the combustion of natural gas, fuel oil, propane, butane, or used/waste oil in the dryer/mixer at the source.

Maximum Capacity

Maximum Fuel Input Rate =	123	MMBtu/hr																	
Natural Gas Usage =	1,077	MMCF/yr																	
No. 2 Fuel Oil Usage =	7,696,286	gal/yr, and	0.50	% sulfur															
No. 4 Fuel Oil Usage =	7,696,286	gal/yr, and	1.00	% sulfur															
Residual (No. 5 or No. 6) Fuel Oil Usage =	7,696,286	gal/yr, and	1.00	% sulfur															
Propane Usage =	0	gal/yr, and	0.20	gr/100 ft3 sulfur															
Butane Usage =	0	gal/yr, and	0.22	gr/100 ft3 sulfur															
Used/Waste Oil Usage =	7,696,286	gal/yr, and	1.00	% sulfur	0.70	% ash	0.400	% chlorine,	0.040	% lead									

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)							Unlimited/Uncontrolled Potential to Emit (tons/yr)							
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)	Worse Case Fuel (tons/yr)
PM	1.9	2.0	7.0	12.41	0.5	0.6	44.8	1.02	7.70	26.94	47.76	0.000	0.000	172.40	172.40
PM10/PM2.5	7.6	3.3	8.3	13.91	0.5	0.6	35.7	4.09	12.70	31.94	53.53	0.000	0.000	137.38	137.38
SO2	0.6	71.0	157.0	157.0	0.020	0.020	147.0	0.32	273.22	604.16	604.16	0.000	0.000	565.68	604.16
NOx	190	24.0	47.0	47.0	13.0	15.0	19.0	102.36	92.36	180.86	180.86	0.00	0.00	73.11	180.86
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	2.96	0.77	1.08	1.08	0.00	0.00	3.85	3.85
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	45.25416	19.24	19.24	19.24	0.00	0.00	19.24	45.25
Hazardous Air Pollutant															
HCl							26.4							101.59	101.59
Antimony			5.25E-03	5.25E-03			negl			2.02E-02	2.02E-02			negl	2.0E-02
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	1.1E-04	2.15E-03	5.08E-03	5.08E-03			4.23E-01	4.2E-01
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	6.5E-06	1.62E-03	1.07E-04	1.07E-04			negl	1.6E-03
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	5.9E-04	1.62E-03	1.53E-03	1.53E-03			3.58E-02	3.6E-02
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	7.5E-04	1.62E-03	3.25E-03	3.25E-03			7.70E-02	7.7E-02
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	4.5E-05		2.32E-02	2.32E-02			8.08E-04	2.3E-02
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			2.2	2.7E-04	4.85E-03	5.81E-03	5.81E-03			8.5E+00	8.47
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	2.0E-04	3.23E-03	1.15E-02	1.15E-02			2.62E-01	0.26
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				1.4E-04	1.62E-03	4.35E-04	4.35E-04				1.6E-03
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	1.1E-03	1.62E-03	3.25E-01	3.25E-01			4.23E-02	0.325
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	1.3E-05	8.08E-03	2.63E-03	2.63E-03			negl	8.1E-03
1,1,1-Trichloroethane			2.36E-04	2.36E-04						9.08E-04	9.08E-04				9.1E-04
1,3-Butadiene															0.0E+00
Acetaldehyde															0.0E+00
Acrolein															0.0E+00
Benzene	2.1E-03		2.14E-04	2.14E-04				1.1E-03		8.24E-04	8.24E-04			8.47E-03	1.1E-03
Bis(2-ethylhexyl)phthalate							2.2E-03							8.47E-03	8.5E-03
Dichlorobenzene	1.2E-03						8.0E-07	6.5E-04						3.08E-06	6.5E-04
Ethylbenzene			6.36E-05	6.36E-05						2.45E-04	2.45E-04				2.4E-04
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				4.0E-02	2.35E-01	1.27E-01	1.27E-01				0.235
Hexane	1.8E+00							0.97							0.970
Phenol							2.4E-03							9.24E-03	9.2E-03
Toluene	3.4E-03		6.20E-03	6.20E-03				1.8E-03		2.39E-02	2.39E-02				2.4E-02
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		4.35E-03	4.35E-03			1.50E-01	1.5E-01
Polycyclic Organic Matter		3.30E-03							1.27E-02						1.3E-02
Xylene			1.09E-04	1.09E-04						4.19E-04	4.19E-04				4.2E-04
Total HAPs								1.02	0.27	0.56	0.56	0	0	111.07	112.65

Methodology

Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
 Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
 Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0905 MMBtu]
 Butane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0974 MMBtu]
 Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]
 All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [ton/2000 lbs]
 Sources of AP-42 Emission Factors for fuel combustion:
 Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
 No. 2, No. 4, and No. 6 Fuel Oil: AP-42 Chapter 1.3 (dated 5/10), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11
 Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM10)
 Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particulate Matter (< 2.5 um)
 SO2 = Sulfur Dioxide
 NOx = Nitrous Oxides
 VOC = Volatile Organic Compounds
 CO = Carbon Monoxide
 HAP = Hazardous Air Pollutant

HCl = Hydrogen Chloride
 PAH = Polyaromatic Hydrocarbon

*Since there are no specific AP-42 HAP emission factors for combustion of No. 4 fuel oil, it was assumed that HAP emissions from combustion of No. 4 fuel oil were equal to combustion of residual or No. 6 fuel oil.

**Appendix A.1: Unlimited Emissions Calculations
Greenhouse Gas (CO₂e) Emissions from the
Dryer/Mixer Fuel Combustion with Maximum Capacity ≥ 100 MMBtu/hr**

**Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivanon**

The following calculations determine the unlimited/uncontrolled emissions created from the combustion of natural gas, fuel oil, propane, butane, or used/waste oil in the dryer/mixer at the source.

Maximum Capacity

Maximum Fuel Input Rate =	123	MMBtu/hr								
Natural Gas Usage =	1,077	MMCF/yr								
No. 2 Fuel Oil Usage =	7,696,286	gal/yr, and	0.50	% sulfur						
No. 4 Fuel Oil Usage =	7,696,286	gal/yr, and	1.00	% sulfur						
Residual (No. 5 or No. 6) Fuel Oil Usage =	7,696,286	gal/yr, and	1.00	% sulfur						
Propane Usage =	0	gal/yr, and	0.20	gr/100 ft3 sulfur						
Butane Usage =	0	gal/yr, and	0.22	gr/100 ft3 sulfur						
Used/Waste Oil Usage =	7,696,286	gal/yr, and	1.00	% sulfur	0.70	% ash	0.400	% chlorine,	0.040	% lead

Unlimited/Uncontrolled Emissions

CO ₂ e Fraction	Emission Factor (units)							Global Warming Potentials (GWP)		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Name	Chemical Formula	Global warming potential
CO ₂	120,161.84	22,501.41	24,153.46	24,835.04	12,500.00	14,506.73	22,024.15	Carbon dioxide	CO ₂	1
CH ₄	2.49	0.91	0.97	1.00	0.60	0.67	0.89	Methane	CH ₄	21
N ₂ O	2.2	0.26	0.19	0.53	0.9	0.9	0.18	Nitrous oxide	N ₂ O	310

CO ₂ e Fraction	Unlimited/Uncontrolled Potential to Emit (tons/yr)						
	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)
CO ₂	64,735.99	86,588.64	92,945.98	95,568.80	0.00	0.00	84,752.09
CH ₄	1.34	3.51	3.72	3.85	0.00	0.00	3.44
N ₂ O	1.19	1.00	0.74	2.04	0.00	0.00	0.69
Total	64,738.52	86,593.15	92,950.44	95,574.69	0.00	0.00	84,756.22

CO₂e for Worst Case Fuel* (tons/yr)
96,281.86

CO ₂ e Equivalent Emissions (tons/yr)	65,131.62	86,972.57	93,254.40	96,281.86	0.00	0.00	85,038.97
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Methodology

Fuel Usage from TSD Appendix A.1, page 1 of 14.
 Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
 Fuel Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
 Propane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.0915 MMBtu]
 Butane Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.102 MMBtu]

Abbreviations

PTE = Potential to Emit
 CO₂ = Carbon Dioxide
 CH₄ = Methane
 N₂O = Nitrogen Dioxide

Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
 Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)

Natural Gas: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N₂O from AP-42 Chapter 1.4 (dated 7/98), Table 1.4-2

No. 2, No. 4, and Residual (No. 5 or No. 6) Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N₂O from AP-42 Chapter 1.3 (dated Fuel Oil: 5/10), Table 1.3-8

Propane: Emission Factor for CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, has been converted from kg/mmBtu to lb/kgal. Emission Factors for CO₂ and N₂O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1

Butane: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N₂O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1

Waste Oil: Emission Factors for CO₂, CH₄, and N₂O from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal.

Emission Factor (EF) Conversions:

Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu)] * Conversion Factor (2.20462 lbs/kg) * Heating Value of Natural Gas (MMBtu/scf) * Conversion Factor (1,000,000 scf/MMCF)]

Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu)] * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]

All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]

Unlimited Potential to Emit CO₂e (tons/yr) = Unlimited Potential to Emit CO₂ of "worst case" fuel (ton/yr) x CO₂ GWP (1) + Unlimited Potential to Emit CH₄ of "worst case" fuel (ton/yr) x CH₄ GWP (21) + Unlimited Potential to Emit N₂O of "worst case" fuel (ton/yr) x N₂O GWP (310).

**Appendix A.1: Unlimited Emissions Calculations
Dryer/Mixer - Process Emissions**

**Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon**

The following calculations determine the unlimited/uncontrolled emissions from the aggregate drying/mixing

Maximum Hourly Asphalt Production =

300	ton/hr
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Maximum Annual Asphalt Production =

2,628,000	ton/yr
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Criteria Pollutant	Uncontrolled Emission Factors (lb/ton)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			Worse Case PTE
	Drum-Mix Plant (dryer/mixer)			Drum-Mix Plant (dryer/mixer)			
	Natural Gas	No. 2 Fuel Oil	Waste Oil	Natural Gas	No. 2 Fuel Oil	Waste Oil	
PM*	28	28	28	36792	36792	36792	36792
PM10*	6.5	6.5	6.5	8541	8541	8541	8541
PM2.5*	1.5	1.5	1.5	1971	1971	1971	1971
SO2**	0.0034	0.011	0.058	4.5	14.5	76.2	76.2
NOx**	0.026	0.055	0.055	34.2	72.3	72.3	72.3
VOC**	0.032	0.032	0.032	42.0	42.0	42.0	42.0
CO***	0.13	0.13	0.13	170.8	170.8	170.8	170.8
Hazardous Air Pollutant							
HCl			2.10E-04			2.76E-01	0.28
Antimony	1.80E-07	1.80E-07	1.80E-07	2.37E-04	2.37E-04	2.37E-04	2.37E-04
Arsenic	5.60E-07	5.60E-07	5.60E-07	7.36E-04	7.36E-04	7.36E-04	7.36E-04
Beryllium	negl	negl	negl	negl	negl	negl	0.00E+00
Cadmium	4.10E-07	4.10E-07	4.10E-07	5.39E-04	5.39E-04	5.39E-04	5.39E-04
Chromium	5.50E-06	5.50E-06	5.50E-06	7.23E-03	7.23E-03	7.23E-03	7.23E-03
Cobalt	2.60E-08	2.60E-08	2.60E-08	3.42E-05	3.42E-05	3.42E-05	3.42E-05
Lead	6.20E-07	1.50E-05	1.50E-05	8.15E-04	1.97E-02	1.97E-02	1.97E-02
Manganese	7.70E-06	7.70E-06	7.70E-06	1.01E-02	1.01E-02	1.01E-02	1.01E-02
Mercury	2.40E-07	2.60E-06	2.60E-06	3.15E-04	3.42E-03	3.42E-03	3.42E-03
Nickel	6.30E-05	6.30E-05	6.30E-05	0.08	0.08	0.08	0.08
Selenium	3.50E-07	3.50E-07	3.50E-07	4.60E-04	4.60E-04	4.60E-04	4.60E-04
2,2,4 Trimethylpentane	4.00E-05	4.00E-05	4.00E-05	0.05	0.05	0.05	0.05
Acetaldehyde			1.30E-03			1.71	1.71
Acrolein			2.60E-05			3.42E-02	3.42E-02
Benzene	3.90E-04	3.90E-04	3.90E-04	0.51	0.51	0.51	0.51
Ethylbenzene	2.40E-04	2.40E-04	2.40E-04	0.32	0.32	0.32	0.32
Formaldehyde	3.10E-03	3.10E-03	3.10E-03	4.07	4.07	4.07	4.07
Hexane	9.20E-04	9.20E-04	9.20E-04	1.21	1.21	1.21	1.21
Methyl chloroform	4.80E-05	4.80E-05	4.80E-05	0.06	0.06	0.06	0.06
MEK			2.00E-05			0.03	0.03
Propionaldehyde			1.30E-04			0.17	0.17
Quinone			1.60E-04			0.21	0.21
Toluene	1.50E-04	2.90E-03	2.90E-03	0.20	3.81	3.81	3.81
Total PAH Haps	1.90E-04	8.80E-04	8.80E-04	0.25	1.16	1.16	1.16
Xylene	2.00E-04	2.00E-04	2.00E-04	0.26	0.26	0.26	0.26
Total HAPs							14.01
Worst Single HAP							4.07 (formaldehyde)

Methodology
Unlimited/Uncontrolled Potential to Emit (tons/yr) = (Maximum Annual Asphalt Production (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-3, 11.1-7, 11.1-8, 11.1-10, and 11.1-12
Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels.

* PM, PM10, and PM2.5 AP-42 emission factors based on drum mix dryer fired with natural gas, propane, fuel oil, and waste oil. According to AP-42 fuel type does not significantly effect PM, PM10, and PM2.5 emissions.

** SO2, NOx, and VOC AP-42 emission factors are for natural gas, No. 2 fuel oil, and waste oil only.

*** CO AP-42 emission factor determined by combining data from drum mix dryer fired with natural gas, No. 6 fuel oil, and No. 2 fuel oil to develop single CO emission factor.

Abbreviations

PM = Particulate Matter SO2 = Sulfur Dioxide CO = Carbon Monoxide PAH = Polyaromatic Hydrocarbon
PM10 = Particulate Matter (<10 um) NOx = Nitrous Oxides HAP = Hazardous Air Pollutant
PM2.5 = Particulate Matter (< 2.5 um) VOC = Volatile Organic Compounds HCl = Hydrogen Chloride

**Appendix A.1: Unlimited Emissions Calculations
Greenhouse Gas (CO₂e) Emissions from the
Drum-Mix Plant (Dryer/Mixer) Process Emissions**

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

The following calculations determine the unlimited/uncontrolled emissions from the aggregate drying/mixing

Maximum Hourly Asphalt Production = 300 ton/hr
 Maximum Annual Asphalt Production = 2,628,000 ton/yr

Criteria Pollutant	Emission Factor (lb/ton) Drum-Mix Plant (dryer/mixer)			Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr) Drum-Mix Plant (dryer/mixer)			CO ₂ e for Worst Case Fuel (tons/yr)
	Natural Gas	No. 2 Fuel Oil	Waste Oil		Natural Gas	No. 2 Fuel Oil	Waste Oil	
CO ₂	33	33	33	1	43,362.00	43,362.00	43,362.00	43,693.13
CH ₄	0.0120	0.0120	0.0120	21	15.77	15.77	15.77	
N ₂ O				310	0	0	0	
Total					43,377.77	43,377.77	43,377.77	
CO₂e Equivalent Emissions (tons/yr)					43,693.13	43,693.13	43,693.13	

Methodology

Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels.

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-7 and 11.1-8

There are no emission factors for N₂O available in either the 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no N₂O emission anticipated from this process.

Unlimited/Uncontrolled Potential to Emit (tons/yr) = (Maximum Annual Asphalt Production (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)

Unlimited Potential to Emit CO₂e (tons/yr) = Unlimited Potential to Emit CO₂ of "worst case" fuel (ton/yr) x CO₂ GWP (1) + Unlimited Potential to Emit CH₄ of "worst case" fuel (ton/yr) x CH₄ GWP (21) + Unlimited Potential to Emit N₂O of "worst case" fuel (ton/yr) x N₂O GWP (310).

Abbreviations

CO₂ = Carbon Dioxide CH₄ = Methane N₂O = Nitrogen Dioxide PTE = Potential to Emit

**Appendix A.1: Unlimited Emissions Calculations
Dryer/Mixer Slag Processing**

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

The following calculations determine the unlimited emissions from the processing of slag in the aggregate drying/mixing

Maximum Annual Blast Furnace Slag Usage =	1,103,760	ton/yr	1.5	% sulfur
Maximum Annual Steel Slag Usage =	1,103,760	ton/yr	0.66	% sulfur

Type of Slag	SO2 Emission Factor (lb/ton)	Unlimited Potential to Emit SO2 (tons/yr)
Blast Furnace Slag*	0.74	408.4
Steel Slag**	0.0014	0.77

Methodology

The maximum annual slag usage was provided by the source.

* Testing results for blast furnace slag, obtained January 9, 2009 from similar operations at Rieth-Riley Construction Co., Inc. facility located in Valparaiso, IN (permit #127-27075-05241), produced an Emission Factor of 0.54 lb/ton from blast furnace slag containing 1.10% sulfur content. The source has requested a safety factor of 0.20 lb/ton be added to the tested value for use at this location to allow for a sulfur content up to 1.5%.

** Testing results for steel slag, obtained June 2009 from E & B Paving, Inc. facility located in Huntington, IN. The testing results showed a steel slag emission factor of 0.0007 lb/ton from slag containing 0.33% sulfur content.

Unlimited Potential to Emit SO2 from Slag (tons/yr) = [(Maximum Annual Slag Usage (ton/yr)) * [Emission Factor (lb/ton)] * [ton/2000 lbs]

Abbreviations

SO2 = Sulfur Dioxide

Appendix A.1: Unlimited Emissions Calculations
Hot Oil Heater
Fuel Combustion with Maximum Capacity < 100 MMBtu/hr

Company Name: Brooks Construction Company, Inc.
Source Location: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

Maximum Hot Oil Heater Fuel Input Rate = 1.96 MMBtu/hr
 Natural Gas Usage = 17.17 MMCF/yr
 No. 2 Fuel Oil Usage = 122,640 gal/yr, and 0.50 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case Fuel (tons/yr)
	Hot Oil Heater		Hot Oil Heater		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	
PM	1.9	2.0	0.016	0.123	0.12
PM10/PM2.5	7.6	3.3	0.065	0.202	0.20
SO2	0.6	71.0	0.005	4.354	4.35
NOx	100	20.0	0.858	1.226	1.23
VOC	5.5	0.20	0.047	0.012	0.05
CO	84	5.0	0.721	0.307	0.72
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	1.7E-06	3.43E-05	3.4E-05
Beryllium	1.2E-05	4.2E-04	1.0E-07	2.58E-05	2.6E-05
Cadmium	1.1E-03	4.2E-04	9.4E-06	2.58E-05	2.6E-05
Chromium	1.4E-03	4.2E-04	1.2E-05	2.58E-05	2.6E-05
Cobalt	8.4E-05		7.2E-07		7.2E-07
Lead	5.0E-04	1.3E-03	4.3E-06	7.73E-05	7.7E-05
Manganese	3.8E-04	8.4E-04	3.3E-06	5.15E-05	5.2E-05
Mercury	2.6E-04	4.2E-04	2.2E-06	2.58E-05	2.6E-05
Nickel	2.1E-03	4.2E-04	1.8E-05	2.58E-05	2.6E-05
Selenium	2.4E-05	2.1E-03	2.1E-07	1.29E-04	1.3E-04
Benzene	2.1E-03		1.8E-05		1.8E-05
Dichlorobenzene	1.2E-03		1.0E-05		1.0E-05
Ethylbenzene					0.0E+00
Formaldehyde	7.5E-02	6.10E-02	6.4E-04	3.74E-03	3.7E-03
Hexane	1.8E+00		1.5E-02		1.5E-02
Phenol					0.0E+00
Toluene	3.4E-03		2.9E-05		2.9E-05
Total PAH Haps	negl		negl		0.0E+00
Polycyclic Organic Matter		3.30E-03		2.02E-04	2.0E-04
Total HAPs =			1.6E-02	4.4E-03	0.020
Worst Single HAP =			1.5E-02	3.7E-03	1.5E-02
			(Hexane)	(Formaldehyde)	(Hexane)

Methodology

Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
 Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
 Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]
 All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [ton/2000 lbs]
 Sources of AP-42 Emission Factors for fuel combustion:

Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
 No. 2 Fuel Oil: AP-42 Chapter 1.3 (dated 5/10), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particulate Matter (<2.5 um)
 SO2 = Sulfur Dioxide
 NOx = Nitrous Oxides
 VOC = Volatile Organic Compounds
 CO = Carbon Monoxide
 HAP = Hazardous Air Pollutant
 HCl = Hydrogen Chloride
 PAH = Polyaromatic Hydrocarbon

**Appendix A.1: Unlimited Emissions Calculations
Greenhouse Gas (CO₂e) Emissions from
Hot Oil Heater Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

Maximum Hot Oil Heater Fuel Input Rate = 1.96 MMBtu/hr
Natural Gas Usage = 17.17 MMCF/yr
No. 2 Fuel Oil Usage = 122,640.00 gal/yr, 0.50 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr)	
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)		Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)
CO ₂	120,161.84	22,501.41	1	1,031.57	1,379.79
CH ₄	2.49	0.91	21	0.02	0.06
N ₂ O	2.2	0.26	310	0.02	0.02
				1,031.61	1,379.86

Worse Case CO ₂ e Emissions (tons/yr)
1,385.90

CO ₂ e Equivalent Emissions (tons/yr)	1,037.87	1,385.90
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Methodology

Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]

Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]

Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)

Natural Gas: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N₂O from AP-42 Chapter 1.4 (dated 7/98), Table 1.4-2

No. 2 Fuel Oil: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N₂O from AP-42 Chapter 1.3 (dated 5/10), Table 1.3-8

Emission Factor (EF) Conversions

Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of Natural Gas (MMBtu/scf) * Conversion Factor (1,000,000 scf/MMCF)]

Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]

All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]

Unlimited Potential to Emit CO₂e (tons/yr) = Unlimited Potential to Emit CO₂ of "worst case" fuel (ton/yr) x CO₂ GWP (1) + Unlimited Potential to Emit CH₄ of "worst case" fuel (ton/yr) x CH₄ GWP (21) + Unlimited Potential to Emit N₂O of "worst case" fuel (ton/yr) x N₂O GWP (310).

Abbreviations

CO₂ = Carbon Dioxide
CH₄ = Methane

N₂O = Nitrogen Dioxide
PTE = Potential to Emit

**Appendix A.1: Unlimited Emissions Calculations
Hot Oil Heating System - Process Emissions**

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

The following calculations determine the unlimited/uncontrolled emissions from the combustion of natural gas and No. 2 fuel oil in the hot oil heating system, which is used to heat a specially designed transfer oil. The hot transfer oil is then pumped through a piping system that passes through the asphalt cement storage tanks, in order to keep the asphalt cement at the correct temperature.

Maximum Fuel Input Rate To Hot Oil Heater = 1.96 MMBtu/hr
 Natural Gas Usage = 17.17 MMCF/yr, and
 No. 2 Fuel Oil Usage = 122,640.00 gal/yr

Criteria Pollutant	Emission Factors		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case PTE
	Natural Gas (lb/ft3)	No. 2 Fuel Oil (lb/gal)	Natural Gas	No. 2 Fuel Oil	
VOC	2.60E-08	2.65E-05	2.23E-04	0.002	0.002
CO	8.90E-06	0.0012	0.076	0.074	0.076
Greenhouse Gas as CO2e*					
CO2	0.20	28.00	1716.96	1716.96	1716.96
Hazardous Air Pollutant					
Formaldehyde	2.60E-08	3.50E-06	2.23E-04	2.15E-04	2.23E-04
Acenaphthene		5.30E-07		3.25E-05	3.25E-05
Acenaphthylene		2.00E-07		1.23E-05	1.23E-05
Anthracene		1.80E-07		1.10E-05	1.10E-05
Benzo(b)fluoranthene		1.00E-07		6.13E-06	6.13E-06
Fluoranthene		4.40E-08		2.70E-06	2.70E-06
Fluorene		3.20E-08		1.96E-06	1.96E-06
Naphthalene		1.70E-05		1.04E-03	1.04E-03
Phenanthrene		4.90E-06		3.00E-04	3.00E-04
Pyrene		3.20E-08		1.96E-06	1.96E-06
Total HAPs					1.63E-03
Worst Single HAP					1.04E-03 (Naphthalene)

Methodology

Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]

No. 2 Fuel Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]

Natural Gas: Potential to Emit (tons/yr) = (Natural Gas Usage (MMCF/yr))*(Emission Factor (lb/CF))*(1000000 CF/MMCF)*(ton/2000 lbs)

No. 2 Fuel Oil: Potential to Emit (tons/yr) = (No. 2 Fuel Oil Usage (gals/yr))*(Emission Factor (lb/gal))*(ton/2000 lbs)

Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 (ton/yr) x CO2 GWP (1)

1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Table 11.1-13

*Note: There are no emission factors for CH4 and N2O available in either 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no CH4 and N2O emission anticipated from this process.

Abbreviations

CO = Carbon Monoxide

VOC = Volatile Organic Compound

CO2 = Carbon Dioxide

**Appendix A.1: Unlimited Emissions Calculations
Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (<=600 HP)**

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

Output Horsepower Rating (hp)	0.0
Maximum Hours Operated per Year	8760
Potential Throughput (hp-hr/yr)	0
Maximum Diesel Fuel Usage (gal/yr)	0

	Pollutant						
	PM ^{2.5}	PM10 ^{2.5}	direct PM2.5 ²	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Emission Factor in lb/kgal	43.07	43.07	43.07	40.13	606.85	49.22	130.77
Potential Emission in tons/yr	0.00	0.00	0.00	0.00	0.00	0.00	0.00

¹The AP-42 Chapter 3.3-1 emission factors in lb/hp-hr were converted to lb/kgal emission factors using an average brake specific fuel consumption of 7,000 Btu / hp-hr, diesel heating value of 19,300 Btu / lb, and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

²Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 1/7,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

³PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Hazardous Air Pollutants (HAPs)

	Pollutant							Total PAH HAPs ³
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	
Emission Factor in lb/MMBtu	9.33E-04	4.09E-04	2.85E-04	3.91E-05	1.18E-03	7.67E-04	9.25E-05	1.68E-04
Emission Factor in lb/kgal	1.28E-01	5.60E-02	3.91E-02	5.36E-03	1.62E-01	1.05E-01	1.27E-02	2.30E-02
Potential Emission in tons/yr	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

³PAH = Polycyclic Aromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

⁴The AP-42 Chapter 3.3-1 emission factors in lb/MMBtu were converted to lb/kgal emission factors using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁵Emission factor (lb/kgal) = AP-42 EF (lb/MMBtu) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Potential Emission of Total HAPs (tons/yr)	0.00E+00
Potential Emission of Worst Case HAPs (tons/yr)	0.00E+00

Green House Gas Emissions (GHG)

	Pollutant		
	CO ₂ ⁵	CH ₄ ⁶	N ₂ O ⁶
Emission Factor in lb/hp-hr	1.15	NA	NA
Emission Factor in kg/MMBtu	NA	0.003	0.0006
Emission Factor in lb/kgal	22,512.07	0.91	0.18
Potential Emission in tons/yr	0.00	0.000	0.000

⁵The AP-42 Chapter 3.3-1 emission factor in lb/hp-hr was converted to lb/kgal emission factor using an average brake specific fuel consumption of 7,000 Btu / hp-hr, diesel heating value of 19,300 Btu / lb, and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁶Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 1/7,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

⁶The 40 CFR 98 Subpart C emission factors in kg/MMBtu were converted to lb/kgal emission factors using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁶Emission factor (lb/kgal) = 40 CFR 98 EF (kg/MMBtu) * 2.20462 (lb/kg) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Summed Potential Emissions in tons/yr	0.00
CO₂e Total in tons/yr	0.00

Methodology

Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]

Maximum Diesel Fuel Usage (gal/yr) = Potential Throughput (hp-hr/yr) * 7000 (Btu/hp-hr) * 1/19300 (lb/Btu) * 1/7.1 (gal/lb)

Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2 and have been converted to lb/kgal

CH₄ and N₂O Emission Factor from 40 CFR 98 Subpart C Table C-2 and have been converted to lb/kgal

Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Potential Emissions (tons/yr) = [Maximum Diesel Fuel Usage (gal/yr) x Emission Factor (lb/kgal)] / (1,000 gal/kgal) / (2,000 lb/ton)

CO₂e (tons/yr) = CO₂ Potential Emission ton/yr x CO₂ GWP (1) + CH₄ Potential Emission ton/yr x CH₄ GWP (21) + N₂O Potential Emission ton/yr x N₂O GWP (310).

Appendix A.1: Unlimited Emissions Calculations
Large Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (>600 HP)

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

Output Horsepower Rating (hp)	880.0	Sulfur Content (S) of Fuel (% by weight)	0.50
Maximum Hours Operated per Year	8760		
Potential Throughput (hp-hr/yr)	7,708,800		
Maximum Diesel Fuel Usage (gal/yr)	393,794		

	Pollutant						
	PM	PM10 ²	direct PM2.5 ²	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	7.00E-04			4.05E-03 (.00809S)	2.40E-02	7.05E-04	5.50E-03
Emission Factor in lb/MMBtu		0.0573	0.0573				
Emission Factor in lb/kgal ¹	13.70	7.85	7.85	79.18	469.82	13.80	107.67
Potential Emission in tons/yr	2.70	1.55	1.55	15.59	92.51	2.72	21.20

¹The AP-42 Chapter 3.4-1 emission factors in lb/hp-hr were converted to lb/kgal emission factors using an average brake specific fuel consumption of 7,000 Btu / hp-hr, diesel heating value of 19,300 Btu / lb, and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

²Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 1/7,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

³Emission factors in lb/kgal were converted from the AP-42 Chapter 3.4-1 emission factors in lb/MMBtu using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁴Emission factor (lb/kgal) = AP-42 EF (lb/MMBtu) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Hazardous Air Pollutants (HAPs)

	Pollutant						Total PAH HAPs ³
	Benzene	Toluene	Xylene	Formaldehyde	Acetaldehyde	Acrolein	
Emission Factor in lb/MMBtu	7.76E-04	2.81E-04	1.93E-04	7.89E-05	2.52E-05	7.88E-06	2.12E-04
Emission Factor in lb/kgal ¹	1.06E-01	3.85E-02	2.64E-02	1.08E-02	3.45E-03	1.08E-03	2.91E-02
Potential Emission in tons/yr	2.09E-02	7.58E-03	5.21E-03	2.13E-03	6.80E-04	2.13E-04	5.72E-03

¹PAH = Polycyclic Aromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

²Emission factors in lb/kgal were converted from the AP-42 Chapter 3.4-1 emission factors in lb/MMBtu using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

³Emission factor (lb/kgal) = AP-42 EF (lb/MMBtu) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Potential Emission of Total HAPs (tons/yr)	4.25E-02
Potential Emission of Worst Case HAPs (tons/yr)	2.09E-02

Green House Gas Emissions (GHG)

	Pollutant		
	CO2 ⁵	CH4 ⁶	N2O ⁷
Emission Factor in lb/hp-hr	1.16	6.35E-05	NA
Emission Factor in kg/MMBtu	NA	NA	0.0006
Emission Factor in lb/kgal	22,707.83	1.24	0.18
Potential Emission in tons/yr	4,471.10	0.24	0.04

⁵The AP-42 Chapter 3.4-1 emission factors in lb/hp-hr were converted to lb/kgal emission factors using an average brake specific fuel consumption of 7,000 Btu / hp-hr, diesel heating value of 19,300 Btu / lb, and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁶Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 1/7,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

⁷According to AP-42, Table 3.4-1, TOC (as CH4) is 9% methane by weight. As a result, the lb/hp-hr emission factor for TOC (as CH4) in AP-42 has been multiplied by 9% to determine the portion that is emitted as methane.

⁸The 40 CFR 98 Subpart C emission factors in kg/MMBtu were converted to lb/kgal emission factors using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁹Emission factor (lb/kgal) = 40 CFR 98 EF (kg/MMBtu) * 2.20462 (lb/kg) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Summed Potential Emissions in tons/yr	4,471.38
CO2e Total in tons/yr	4,487.30

Methodology

Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]

Maximum Diesel Fuel Usage (gal/yr) = Potential Throughput (hp-hr/yr) * 7000 (Btu/hp-hr) * 1/19300 (lb/Btu) * 1/7.1 (gal/lb)

Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1, 3.4-2, 3.4-3, and 3.4-4 and have been converted to lb/kgal.

N2O Emission Factor from 40 CFR 98 Subpart C Table C-2 and have been converted to lb/kgal.

Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Potential Emissions (tons/yr) = [Maximum Diesel Fuel Usage (gal/yr) x Emission Factor (lb/kgal)] / (1,000 gal/kgal) / (2,000 lb/ton)

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O

Potential Emission ton/yr x N2O GWP (310).

**Appendix A.1: Unlimited Emissions Calculations
Asphalt Load-Out, Silo Filling, and Yard Emissions**

**Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon**

The following calculations determine the unlimited/uncontrolled fugitive emissions from hot asphalt mix load-out, silo filling, and on-site yard for a drum mix hot mix asphalt plant

Asphalt Temperature, T =	325	F
Asphalt Volatility Factor, V =	-0.5	
Maximum Annual Asphalt Production =	2,628,000	tons/yr

Pollutant	Emission Factor (lb/ton asphalt)			Unlimited/Uncontrolled Potential to Emit (tons/yr)			
	Load-Out	Silo Filling	On-Site Yard	Load-Out	Silo Filling	On-Site Yard	Total
Total PM*	5.2E-04	5.9E-04	NA	0.69	0.77	NA	1.46
Organic PM	3.4E-04	2.5E-04	NA	0.45	0.334	NA	0.78
TOC	0.004	0.012	0.001	5.46	16.01	1.445	22.9
CO	0.001	0.001	3.5E-04	1.77	1.550	0.463	3.79

NA = Not Applicable (no AP-42 Emission Factor)

PM/HAPs	0.032	0.038	0	0.069
VOC/HAPs	0.081	0.204	0.021	0.306
non-VOC/HAPs	4.2E-04	4.3E-05	1.1E-04	5.8E-04
non-VOC/non-HAPs	0.40	0.23	0.10	0.73

Total VOCs	5.14	16.01	1.4	22.5
Total HAPs	0.11	0.24	0.021	0.38
	Worst Single HAP			0.117
				(formaldehyde)

Methodology

The asphalt temperature and volatility factor were provided by the source.

Unlimited/Uncontrolled Potential to Emit (tons/yr) = (Maximum Annual Asphalt Production (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-14, 11.1-15, and 11.1-16

Plant Load-Out Emission Factor Equations (AP-42 Table 11.1-14)::

Total PM/PM10/PM2.5 Ef = 0.000181 + 0.00141(-V)e^{-(0.0251)(T+460)-20.43}

Organic PM Ef = 0.00141(-V)e^{-(0.0251)(T+460)-20.43}

TOC Ef = 0.0172(-V)e^{-(0.0251)(T+460)-20.43}

CO Ef = 0.00558(-V)e^{-(0.0251)(T+460)-20.43}

Silo Filling Emission Factor Equations (AP-42 Table 11.1-14):

PM/PM10 Ef = 0.000332 + 0.00105(-V)e^{-(0.0251)(T+460)-20.43}

Organic PM Ef = 0.00105(-V)e^{-(0.0251)(T+460)-20.43}

TOC Ef = 0.0504(-V)e^{-(0.0251)(T+460)-20.43}

CO Ef = 0.00488(-V)e^{-(0.0251)(T+460)-20.43}

On Site Yard CO emissions estimated by multiplying the TOC emissions by 0.32

*No emission factors available for PM10 or PM2.5, therefore IDEM assumes PM10 and PM2.5 are equivalent to Total PM.

Abbreviations

TOC = Total Organic Compounds

CO = Carbon Monoxide

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

HAP = Hazardous Air Pollutant

VOC = Volatile Organic Compound

**Appendix A.1: Unlimited Emissions Calculations
Asphalt Load-Out, Silo Filling, and Yard Emissions (continued)**

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

Organic Particulate-Based Compounds (Table 11.1-15)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total
PAH HAPs										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	1.2E-03	1.6E-03	NA	2.7E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	1.3E-04	4.7E-05	NA	1.7E-04
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	3.1E-04	4.3E-04	NA	7.5E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	8.5E-05	1.9E-04	NA	2.7E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	3.4E-05	0	NA	3.4E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	9.9E-06	0	NA	9.9E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	8.5E-06	0	NA	8.5E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	1.0E-05	0	NA	1.0E-05
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	3.5E-05	3.2E-05	NA	6.7E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	4.6E-04	7.0E-04	NA	1.2E-03
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	1.7E-06	0	NA	1.7E-06
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	2.2E-04		NA	2.2E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	3.4E-03	3.4E-03	NA	6.8E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	2.1E-06	0	NA	2.1E-06
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	1.1E-02	1.8E-02	NA	0.028
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	5.6E-03	6.1E-03	NA	1.2E-02
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	9.9E-05	1.0E-04	NA	2.0E-04
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	3.6E-03	6.0E-03	NA	9.6E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	6.7E-04	1.5E-03	NA	2.1E-03
Total PAH HAPs							0.027	0.038	NA	0.064
Other semi-volatile HAPs										
Phenol		PM/HAP	---	Organic PM	1.18%	0	5.3E-03	0	0	5.3E-03

NA = Not Applicable (no AP-42 Emission Factor)

Methodology

Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Speciation Profile (%)] * [Organic PM (tons/yr)]

Speciation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

Abbreviations

PM = Particulate Matter

HAP = Hazardous Air Pollutant

POM = Polycyclic Organic Matter

**Appendix A.1: Unlimited Emissions Calculations
Asphalt Load-Out, Silo Filling, and Yard Emissions (continued)**

Organic Volatile-Based Compounds (Table 11.1-16)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Unlimited/Uncontrolled Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
VOC		VOC	---	TOC	94%	100%	5.14	16.01	1.36	22.51
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	3.6E-01	4.2E-02	9.4E-02	0.491
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	2.5E-03	8.8E-03	6.6E-04	0.012
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	3.9E-02	1.8E-01	1.0E-02	0.225
Total non-VOC/non-HAPS					7.30%	1.40%	0.399	0.224	0.106	0.73
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	2.8E-03	5.1E-03	7.5E-04	8.7E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	5.2E-04	7.8E-04	1.4E-04	1.4E-03
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	2.7E-03	6.2E-03	7.1E-04	9.6E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	7.1E-04	2.6E-03	1.9E-04	3.5E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	1.1E-05	6.4E-04	3.0E-06	6.6E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	8.2E-04	3.7E-03	2.2E-04	4.7E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	6.0E-03	0	1.6E-03	7.6E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	1.5E-02	6.1E-03	4.0E-03	0.025
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	4.8E-03	1.1E-01	1.3E-03	0.117
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	8.2E-03	1.6E-02	2.2E-03	0.026
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	9.8E-05	5.0E-05	2.6E-05	1.7E-04
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	4.3E-05	0	4.3E-05
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	0.0054%	4.0E-04	8.6E-04	1.1E-04	1.4E-03
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	4.2E-04	0	1.1E-04	5.3E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	1.1E-02	9.9E-03	3.0E-03	0.024
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	0	7.1E-05	0	1.9E-05	9.0E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	2.2E-02	3.2E-02	5.9E-03	0.060
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	4.4E-03	9.1E-03	1.2E-03	1.5E-02
Total volatile organic HAPs					1.50%	1.30%	0.082	0.208	0.022	0.312

Methodology

Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Speciation Profile (%)] * [TOC (tons/yr)]
Speciation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

Abbreviations

TOC = Total Organic Compounds
HAP = Hazardous Air Pollutant
VOC = Volatile Organic Compound
MTBE = Methyl tert butyl ether

**Appendix A.1: Unlimited Emissions Calculations
Material Storage Piles**

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

The following calculations determine the amount of emissions created by wind erosion of storage stockpiles, based on 8,760 hours of use and USEPA's AP-42 (Pre 1983 Edition), Section 11.2.3.

$$E_f = 1.7 * (s/1.5) * (365-p) / 235 * (f/15)$$

where E_f = emission factor (lb/acre/day)
 s = silt content (wt %)
 p = 125 days of rain greater than or equal to 0.01 inches
 f = 15 % of wind greater than or equal to 12 mph

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	0.00	0.000	0.000
Limestone	1.6	1.85	2.066	0.698	0.244
RAP	0.5	0.58	0.50	0.053	0.018
Gravel	1.6	1.85	0.00	0.000	0.000
Shingles	0.5	0.58	0.418	0.044	0.015
Slag	3.8	4.40	0.086	0.069	0.024
Totals				0.86	0.30

Methodology

PTE of PM (tons/yr) = (Emission Factor (lb/acre/day)) * (Maximum Pile Size (acres)) * (ton/2000 lbs) * (8760 hours/yr)

PTE of PM10/PM2.5 (tons/yr) = (Potential PM Emissions (tons/yr)) * 35%

*Silt content values obtained from AP-42 Table 13.2.4-1 (dated 1/95)

**Maximum anticipated pile size (acres) provided by the source.

PM2.5 = PM10

Abbreviations

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

PTE = Potential to Emit

RAP = Recycled Asphalt Pavement

**Appendix A.1: Unlimited Emissions Calculations
Material Processing, Handling, Crushing, Screening, and Conveying**

**Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon**

Batch or Continuous Drop Operations (AP-42 Section 13.2.4)

To estimate potential fugitive dust emissions from processing and handling of raw materials (batch or continuous drop operations), AP-42 emission factors for Aggregate Handling, Section 13.2.4 (fifth edition, 1/95) are utilized.

$$E_f = k \cdot (0.0032)^{0.74} \cdot (U/5)^{1.3} / (M/2)^{1.4}$$

where: E_f = Emission factor (lb/ton)
 k (PM) = 0.74 = particle size multiplier (0.74 assumed for aerodynamic diameter <=100 um)
 k (PM10) = 0.35 = particle size multiplier (0.35 assumed for aerodynamic diameter <=10 um)
 k (PM2.5) = 0.053 = particle size multiplier (0.053 assumed for aerodynamic diameter <=2.5 um)
 U = 10.2 = worst case annual mean wind speed (Source: NOAA, 2006*)
 M = 4.0 = material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)
 E_f (PM) = 2.27E-03 lb PM/ton of material handled
 E_f (PM10) = 1.07E-03 lb PM10/ton of material handled
 E_f (PM2.5) = 1.62E-04 lb PM2.5/ton of material handled

Maximum Annual Asphalt Production = 2,628,000 tons/yr
 Percent Asphalt Cement/Binder (weight %) = 5.0%
 Maximum Material Handling Throughput = 2,496,600 tons/yr

Type of Activity	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10 (tons/yr)	Unlimited/Uncontrolled PTE of PM2.5 (tons/yr)
Truck unloading of materials into storage piles	2.83	1.34	0.20
Front-end loader dumping of materials into feeder bins	2.83	1.34	0.20
Conveyor dropping material into dryer/mixer or batch tower	2.83	1.34	0.20
Total (tons/yr)	8.49	4.02	0.61

Methodology

The percent asphalt cement/binder provided by the source.
 Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Unlimited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
 Raw materials may include limestone, sand, recycled asphalt pavement (RAP), gravel, slag, and other additives
 *Worst case annual mean wind speed (Indianapolis, IN) from "Comparative Climatic Data", National Climatic Data Center, NOAA, 2006

Material Screening and Conveying (AP-42 Section 11.19.2)

To estimate potential fugitive dust emissions from raw material crushing, screening, and conveying, AP-42 emission factors for Crushed Stone Processing Operations, Section 11.19.2 (dated 8/04) are utilized.

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Unlimited/Uncontrolled PTE of PM (tons/yr)	Unlimited/Uncontrolled PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	0.00	0.00
Screening	0.025	0.0087	31.21	10.86
Conveying	0.003	0.0011	3.74	1.37
Unlimited Potential to Emit (tons/yr) =			34.95	12.23

Methodology

Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Unlimited Potential to Emit (tons/yr) = [Maximum Material Handling Throughput (tons/yr)] * [Emission Factor (lb/ton)] * [ton/2000 lbs]
 Raw materials may include stone/gravel, slag, and recycled asphalt pavement (RAP)
 Emission Factors from AP-42 Chapter 11.19.2 (dated 8/04), Table 11.19.2-2
 *Uncontrolled emissions factors for PM/PM10 represent tertiary crushing of stone with moisture content ranging from 0.21 to 1.3 percent by weight (Table 11.19.2-2). The bulk moisture content of aggregate in the storage piles at a hot mix asphalt production plant typically stabilizes between 3 to 5 percent by weight (Source: AP-42 Section 11.1.1.1).
 **Assumes PM10 = PM2.5

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particulate matter (< 2.5 um)
 PTE = Potential to Emit

**Appendix A.1: Unlimited Emissions Calculations
Unpaved Roads**

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivanon

Unpaved Roads at Industrial Site

The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.2 (12/2003).

Maximum Annual Asphalt Production	2,628,000	tons/yr
Percent Asphalt Cement/Binder (weight %)	5.0%	
Maximum Material Handling Throughput	2,496,600	tons/yr
Maximum Asphalt Cement/Binder Throughput	131,400	tons/yr
Maximum No. 2 Fuel Oil Usage	7,696,286	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	24.0	41	1.0E+05	4.3E+06	300	0.057	5910.5
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	1.0E+05	1.8E+06	300	0.057	5910.5
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	3.7E+03	1.8E+05	250	0.047	172.8
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	3.7E+03	4.4E+04	250	0.047	172.8
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	8.1E+02	3.6E+04	250	0.047	38.5
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	8.1E+02	9.9E+03	250	0.047	38.5
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.5	19.5	5.5E+05	1.1E+07	150	0.028	15761.4
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	5.5E+05	8.3E+06	150	0.028	15761.4
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	1.1E+05	4.5E+06	250	0.047	5184.7
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	1.1E+05	1.9E+06	250	0.047	5184.7
Total					1.5E+06	3.2E+07			5.4E+04

Average Vehicle Weight Per Trip	20.6	tons/trip
Average Miles Per Trip	0.035	miles/trip

Unmitigated Emission Factor, $E_{f-ak} = [(s/12)^a] / [(W/3)^b]$ (Equation 1a from AP-42 13.2.2)

	PM	PM10	PM2.5	
where k =	4.8	1.5	0.15	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	4.8	4.8	4.8	% = mean % silt content of unpaved roads (AP-42 Table 13.2.2-3 Sand/Gravel Processing Plant Road)
a =	0.7	0.9	0.9	= constant (AP-42 Table 13.2.2-2)
W =	20.6	20.6	20.6	tons = average vehicle weight (provided by source)
b =	0.45	0.45	0.45	= constant (AP-42 Table 13.2.2-2)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E * [(365 - P)/365]$

Mitigated Emission Factor, $E_{ext} = E * [(365 - P)/365]$			
where P =	125	days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)	

	PM	PM10	PM2.5	
Unmitigated Emission Factor, E_{f-ak}	6.14	1.56	0.16	lb/mile
Mitigated Emission Factor, E_{ext}	4.03	1.03	0.10	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	18.13	4.62	0.46	11.92	3.04	0.30	5.96	1.52	0.15
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	18.13	4.62	0.46	11.92	3.04	0.30	5.96	1.52	0.15
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.530	0.135	0.01	0.349	0.089	0.01	0.174	0.044	0.00
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.530	0.135	0.01	0.349	0.089	0.01	0.174	0.044	0.00
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.118	0.030	0.00	0.078	0.020	0.00	0.039	0.010	0.00
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.118	0.030	0.00	0.078	0.020	0.00	0.039	0.010	0.00
Aggregate/RAP Loader Full	Front-end loader (3 CY)	48.35	12.32	1.23	31.79	8.10	0.81	15.90	4.05	0.41
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	48.35	12.32	1.23	31.79	8.10	0.81	15.90	4.05	0.41
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	15.91	4.05	0.41	10.46	2.67	0.27	5.23	1.33	0.13
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	15.91	4.05	0.41	10.46	2.67	0.27	5.23	1.33	0.13
Totals		166.08	42.33	4.23	109.21	27.83	2.78	54.60	13.92	1.39

Methodology

Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
 Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]
 Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]
 Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] * [Maximum trips per year (trip/yr)]
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
 Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
 Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)

Abbreviations

PM = Particulate Matter PM10 = Particulate Matter (<10 um) PM2.5 = Particulate Matter (<2.5 um) PTE = Potential to Emit

**Appendix A: Unlimited Emissions Calculations
Paved Roads**

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

Paved Roads at Industrial Site

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (12/2003).

Maximum Annual Asphalt Production	=	2,628,000	tons/yr
Percent Asphalt Cement/Binder (weight %)	=	5.0%	
Maximum Material Handling Throughput	=	2,496,800	tons/yr
Maximum Asphalt Cement/Binder Throughput	=	131,400	tons/yr
Maximum No. 2 Fuel Oil Usage	=	7,696,286	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per day (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	22.4	39.40	1.1E+05	4.4E+06	300	0.057	6332.7
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	1.1E+05	1.9E+06	300	0.057	6332.7
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	3.7E+03	1.8E+05	300	0.057	207.4
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	3.7E+03	4.4E+04	300	0.057	207.4
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	8.1E+02	3.6E+04	300	0.057	46.2
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	8.1E+02	9.8E+03	300	0.057	46.2
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.2	19.20	5.9E+05	1.1E+07	300	0.057	33774.4
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	5.9E+05	8.9E+06	300	0.057	33774.4
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	1.1E+05	4.5E+06	300	0.057	6221.6
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	1.1E+05	1.9E+06	300	0.057	6221.6
Total				1.6E+06	3.3E+07				9.3E+04

Average Vehicle Weight Per Trip = 20.3 tons/trip
Average Miles Per Trip = 0.057 miles/trip

Unmitigated Emission Factor, $E_f = k \cdot (sL)^{0.91} \cdot (W)^{1.02}$ (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	20.3	20.3	20.3	tons = average vehicle weight (provided by source)
sL =	0.6	0.6	0.6	g/m ² = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E_f \cdot [1 - (p/4N)]$

Mitigated Emission Factor, $E_{ext} = E_f \cdot [1 - (p/4N)]$
where p = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N = 365 days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, E_f	0.15	0.03	0.01	lb/mile
Mitigated Emission Factor, E_{ext}	0.14	0.03	0.01	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.47	0.09	0.02	0.43	0.09	0.02	0.22	0.04	0.01
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.47	0.09	0.02	0.43	0.09	0.02	0.22	0.04	0.01
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.015	0.003	7.6E-04	0.014	0.003	6.9E-04	0.007	1.4E-03	3.5E-04
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.015	0.003	7.6E-04	0.014	0.003	6.9E-04	0.007	1.4E-03	3.5E-04
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	3.4E-03	6.9E-04	1.7E-04	3.1E-03	6.3E-04	1.5E-04	1.6E-03	3.1E-04	7.7E-05
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	3.4E-03	6.9E-04	1.7E-04	3.1E-03	6.3E-04	1.5E-04	1.6E-03	3.1E-04	7.7E-05
Aggregate/RAP Loader Full	Front-end loader (3 CY)	2.51	0.50	0.12	2.30	0.46	0.11	1.15	0.23	0.06
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	2.51	0.50	0.12	2.30	0.46	0.11	1.15	0.23	0.06
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.46	0.09	0.02	0.42	0.08	0.02	0.21	0.04	0.01
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.46	0.09	0.02	0.42	0.08	0.02	0.21	0.04	0.01
Totals		6.93	1.39	0.34	6.34	1.27	0.31	3.17	0.63	0.16

Methodology

Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]
Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]
Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] * [Maximum trips per year (trip/yr)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
Unmitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Unmitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Mitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Mitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Controlled PTE (tons/yr) = [Mitigated PTE (tons/yr)] * (1 - Dust Control Efficiency)

Abbreviations

PM = Particulate Matter PM10 = Particulate Matter (<10 um) PM2.5 = Particulate Matter (<2.5 um) PTE = Potential to Emit

**Appendix A.1: Unlimited Emissions Calculations
Cold Mix Asphalt Production and Stockpiles**

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

The following calculations determine the amount of VOC and HAP emissions created from volatilization of solvent used as diluent in the liquid binder for cold mix asphalt production

Maximum Annual Asphalt Production	=	0	tons/yr
Percent Asphalt Cement/Binder (weight %)	=	5.0%	
Maximum Asphalt Cement/Binder Throughput	=	0	tons/yr

Volatile Organic Compounds

	Maximum weight % of VOC solvent in binder*	Weight % VOC solvent in binder that evaporates	Maximum VOC Solvent Usage (tons/yr)	PTE of VOC (tons/yr)
Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)	25.3%	95.0%	0.0	0.0
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	0.0	0.0
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	0.0	0.0
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	0.0	0.0
Other asphalt with solvent binder	25.9%	2.5%	0.0	0.0
Worst Case PTE of VOC =				0.0

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)*	=	26.08%
Worst Case Single HAP Content of VOC solvent (weight %)*	=	9.0% Xylenes
PTE of Total HAPs (tons/yr) =	0.00	
PTE of Single HAP (tons/yr) =	0.00 Xylenes	

Hazardous Air Pollutant (HAP) Content (% by weight) For Various Petroleum Solvents

Volatile Organic HAP	CAS#	Hazardous Air Pollutant (HAP) Content (% by weight)* For Various Petroleum Solvents				
		Gasoline	Kerosene	Diesel (#2) Fuel Oil	No. 2 Fuel Oil	No. 6 Fuel Oil
1,3-Butadiene	106-99-0	3.70E-5%				
2,2,4-Trimethylpentane	540-84-1	2.40%				
Acenaphthene	83-32-9		4.70E-5%		1.80E-4%	
Acenaphthylene	208-96-8		4.50E-5%		6.00E-5%	
Anthracene	120-12-7		1.20E-6%	5.80E-5%	2.80E-5%	5.00E-5%
Benzene	71-43-2	1.90%		2.90E-4%		
Benzo(a)anthracene	56-55-3			9.60E-7%	4.50E-7%	5.50E-4%
Benzo(a)pyrene	50-32-8			2.20E-6%	2.10E-7%	4.40E-5%
Benzo(g,h,i)perylene	191-24-2			1.20E-7%	5.70E-8%	
Biphenyl	92-52-4			6.30E-4%	7.20E-5%	
Chrysene	218-01-9			4.50E-7%	1.40E-6%	6.90E-4%
Ethylbenzene	100-41-4	1.70%		0.07%	3.40E-4%	
Fluoranthene	206-44-0		7.10E-6%	5.90E-5%	1.40E-5%	2.40E-4%
Fluorene	86-73-7		4.20E-5%	8.60E-4%	1.90E-4%	
Indeno(1,2,3-cd)pyrene	193-39-5			1.60E-7%		1.00E-4%
Methyl-tert-butylether	1634-04-4	0.33%				
Naphthalene	91-20-3	0.25%	0.31%	0.26%	0.22%	4.20E-5%
n-Hexane	110-54-3	2.40%				
Phenanthrene	85-01-8		8.60E-6%	8.80E-4%	7.90E-4%	2.10E-4%
Pyrene	129-00-0		2.40E-6%	4.60E-5%	2.90E-5%	2.30E-5%
Toluene	108-88-3	8.10%		0.18%	6.20E-4%	
Total Xylenes	1330-20-7	9.00%		0.50%	0.23%	
Total Organic HAPs		26.08%	0.33%	1.29%	0.68%	0.19%
Worst Single HAP		9.00%	0.31%	0.50%	0.23%	0.07%
		Xylenes	Naphthalene	Xylenes	Xylenes	Chrysene

Methodology

Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
Maximum VOC Solvent Usage (tons/yr) = [Maximum Asphalt Cement/Binder Throughput (tons/yr)] * [Maximum Weight % of VOC Solvent in Binder]
PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] * [Maximum VOC Solvent Usage (tons/yr)]
PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]
PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]

*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science.

Abbreviations

VOC = Volatile Organic Compounds
PTE = Potential to Emit

**Appendix A.1: Unlimited Emissions Calculations
Gasoline Fuel Transfer and Dispensing Operation**

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

To calculate evaporative emissions from the gasoline dispensing fuel transfer and dispensing operation handling emission factors from AP-42 Table 5.2-7 were used. The total potential emission of VOC is as follows:

$$\begin{aligned} \text{Gasoline Throughput} &= 0 \text{ gallons/day} \\ &= 0.0 \text{ kgal/yr} \end{aligned}$$

Volatile Organic Compounds

Emission Source	Emission Factor (lb/kgal of throughput)	PTE of VOC (tons/yr)*
Filling storage tank (balanced submerged filling)	0.3	0.00
Tank breathing and emptying	1.0	0.00
Vehicle refueling (displaced losses - controlled)	1.1	0.00
Spillage	0.7	0.00
Total		0.00

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0% Xylenes
Limited PTE of Total HAPs (tons/yr) =	0.00
Limited PTE of Single HAP (tons/yr) =	0.00 Xylenes

Methodology

The gasoline throughput was provided by the source.

Gasoline Throughput (kgal/yr) = [Gasoline Throughput (lbs/day)] * [365 days/yr] * [kgal/1000 gal]

PTE of VOC (tons/yr) = [Gasoline Throughput (kgal/yr)] * [Emission Factor (lb/kgal)] * [ton/2000 lb]

PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [PTE of VOC (tons/yr)]

PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [PTE of VOC (tons/yr)]

*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science.

Abbreviations

VOC = Volatile Organic Compounds

PTE = Potential to Emit

Appendix A.2: Limited Emissions Summary
Entire Source - Drum Mix

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

Asphalt Plant Limitations - Drum Mix

Maximum Hourly Asphalt Production =	300	ton/hr										
Annual Asphalt Production Limitation =	1,359,521	ton/yr										
Blast Furnace Slag Usage Limitation =	50,000	ton/yr	1.50	% sulfur								
Steel Slag Usage Limitation =	679,761		0.66	% sulfur								
Maximum Dryer Fuel Input Rate =	123	MMBtu/hr										
Natural Gas Limitation =	732.47	MMCF/yr										
No. 2 Fuel Oil Limitation =	2,011,134	gal/yr, and	0.50	% sulfur								
No. 4 Fuel Oil Limitation =	909,494	gal/yr, and	1.00	% sulfur								
Residual (No. 5 or No. 6) Fuel Oil Limitation =	909,494	gal/yr, and	1.00	% sulfur								
Propane Limitation =	0	gal/yr, and	0.20	gr/100 ft3 sulfur								
Butane Limitation =	0	gal/yr, and	0.22	gr/100 ft3 sulfur								
Used/Waste Oil Limitation =	750,000	gal/yr, and	1.00	% sulfur	0.70	% ash	0.400	% chlorine,	0.040	% lead		
Diesel Fuel Limitation - Generator < 600 HP =	0	gal/yr, and										
Diesel Fuel Limitation - Generator > 600 HP =	120,000	gal/yr	0.50	% sulfur								
PM Dryer/Mixer Limitation =	0.288	lb/ton of asphalt production										
PM10 Dryer/Mixer Limitation =	0.120	lb/ton of asphalt production										
PM2.5 Dryer/Mixer Limitation =	0.132	lb/ton of asphalt production										
CO Dryer/Mixer Limitation =	0.130	lb/ton of asphalt production										
VOC Dryer/Mixer Limitation =	0.032	lb/ton of asphalt production										
Blast Furnace Slag SO2 Dryer/Mixer Limitation =	0.740	lb/ton of slag processed										
Steel Slag SO2 Dryer/Mixer Limitation =	0.0014	lb/ton of slag processed										
Cold Mix Asphalt VOC Limitation =	0.0	tons/yr										
HCl Limitation =	26.4	lb/kgal										

Limited/Controlled Emissions

Process Description	Limited/Controlled Potential Emissions (tons/year)									
	Criteria Pollutants							Greenhouse Gas Pollutants	Hazardous Air Pollutants	
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	CO ₂ e	Total HAPs	Worst Case HAP
Ducted Emissions										
Dryer Fuel Combustion (worst case)	16.80	13.39	13.39	71.40	69.58	2.01	30.76	44,276.37	11.59	9.90 (hydrogen chloride)
Dryer/Mixer (Process)	195.72	81.67	89.90	39.43	37.39	21.75	88.37	22,603.4	7.25	2.11 (formaldehyde)
Dryer/Mixer Slag Processing	0	0	0	18.50	0	0	0	0	0	0
Hot Oil Heater Fuel Combustion/Process (worst case)	0.12	0.20	0.20	4.35	1.23	0.05	0.72	1,716.96	0.02	0.015 (hexane)
Diesel-Fired Generator < 600 HF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.000 (formaldehyde)
Diesel-Fired Generator > 600 HF	0.82	0.47	0.47	4.75	28.19	0.83	6.46	1,367.41	0.01	0.006 (benzene)
Worst Case Emissions*	196.67	82.34	90.58	99.00	99.00	22.63	95.55	47,360.74	11.63	9.90 (hydrogen chloride)
				94.65	97.77			45,643.78		
Fugitive Emissions										
Asphalt Load-Out, Silo Filling, On-Site Yard	0.75	0.75	0.75	0	0	11.64	1.96	0	0.19	0.06 (formaldehyde)
Material Storage Piles	0.68	0.31	0.31	0	0	0	0	0	0	0
Material Processing and Handling	4.39	2.08	0.31	0	0	0	0	0	0	0
Material Crushing, Screening, and Conveying	18.08	6.33	6.33	0	0	0	0	0	0	0
Unpaved and Paved Roads (worst case)	28.22	7.19	0.72	0	0	0	0	0	0	0
Cold Mix Asphalt Production	0	0	0	0	0	0.00	0	0	0.00	0.00 (xylenes)
Gasoline Fuel Transfer and Dispensing	0	0	0	0	0	0.00	0	0	0.00	0.00 (xylenes)
Volatile Organic Liquid Storage Vessels	0	0	0	0	0	negl	0	0	negl	negl
Total Fugitive Emissions	52.33	16.66	8.42	0	0	11.64	1.96	0.00	0.19	0.06 (xylenes)
Totals Limited/Controlled Emissions	249.00	99.00	99.00	99.00	99.00	34.27	97.51	47,360.74	11.82	9.90 (hydrogen chloride)

negl = negligible

*Worst Case Fuel Combustion is based on the fuel with the highest emissions for each specific pollutant.

*Worst Case Emissions (tons/yr) = Worst Case Emissions from Dryer Fuel Combustion and Dryer/Mixer + Dryer/Mixer Slag Processing + Worst Case Emissions from Hot Oil Heater Fuel Combustion and Hot Oil Heating System + Diesel-F Generator < 600 HP + Diesel-Fired Generator > 600 HP
 Fuel component percentages provided by the source.

Appendix A.2: Limited Emissions Summary
Dryer/Mixer Fuel Combustion with Maximum Capacity > 100 MMBtu/hr

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

The following calculations determine the limited emissions created from the combustion of natural gas, fuel oil, propane, butane, or used/waste oil in the dryer/mixer and all other fuel combustion sources at the source.

Fuel Limitations

Maximum Fuel Input Rate =	123	MMBtu/hr																	
Natural Gas Limitation =	732	MMCF/yr																	
No. 2 Fuel Oil Limitation =	2,011,134	gallyr, and		0.50	% sulfur														
No. 4 Fuel Oil Limitation =	909,494	gallyr, and		1.00	% sulfur														
Residual (No. 5 or No. 6, blend) Fuel Oil Limitation =	909,494	gallyr, and		1.00	% sulfur														
Propane Limitation =	0	gallyr, and		0.20	gr/100 ft3 sulfur														
Butane Limitation =	0	gallyr, and		0.22	gr/100 ft3 sulfur														
Used/Waste Oil Limitation =	750,000	gallyr, and		1.00	% sulfur	0.70	% ash	0.400	% chlorine	0.040	% lead								

Limited Emissions

Criteria Pollutant	Emission Factor (units)								Limited Potential to Emit (tons/yr)							
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil* (lb/kgal)	Residual (No. 5 or No. 6) Blend Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)		Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)	Worse Case Fuel (tons/yr)
PM	1.9	2	7	12.41	0.5	0.6	44.8	0.70	2.01	3.18	5.64	0.000	0.000	16.80	16.80	
PM10/PM2.5	7.6	3.3	8.3	13.91	0.5	0.6	35.7	2.78	3.32	3.77	6.33	0.000	0.000	13.39	13.39	
SO2	0.6	71.0	157.0	157.0	0.020	0.020	147.0	0.22	71.40	71.40	71.40	0.000	0.000	55.13	71.40	
NOx	190	24.0	47.0	47.0	13.0	15.0	19.0	69.58	24.13	21.37	21.37	0.00	0.00	7.13	69.58	
VOC	5.5	0.20	0.20	0.28	1.00	1.10	1.0	2.01	0.20	0.09	0.13	0.00	0.00	0.38	2.01	
CO	84	5.0	5.0	5.0	7.5	8.4	5.0	30.76	5.03	2.27	2.27	0.00	0.00	1.88	30.76	
Hazardous Air Pollutant																
HCl							26.4								9.90	9.90
Antimony			5.25E-03	5.25E-03			negl			2.39E-03	2.39E-03				negl	2.4E-03
Arsenic	2.0E-04	5.6E-04	1.32E-03	1.32E-03			1.1E-01	7.3E-05	5.63E-04	6.00E-04	6.00E-04				4.13E-02	4.1E-02
Beryllium	1.2E-05	4.2E-04	2.78E-05	2.78E-05			negl	4.4E-06	4.22E-04	1.26E-05	1.26E-05				negl	4.2E-04
Cadmium	1.1E-03	4.2E-04	3.98E-04	3.98E-04			9.3E-03	4.0E-04	4.22E-04	1.81E-04	1.81E-04				3.49E-03	3.5E-03
Chromium	1.4E-03	4.2E-04	8.45E-04	8.45E-04			2.0E-02	5.1E-04	4.22E-04	3.84E-04	3.84E-04				7.50E-03	7.5E-03
Cobalt	8.4E-05		6.02E-03	6.02E-03			2.1E-04	3.1E-05		2.74E-03	2.74E-03				7.88E-05	2.7E-03
Lead	5.0E-04	1.3E-03	1.51E-03	1.51E-03			2.2	1.8E-04	1.27E-03	6.87E-04	6.87E-04				8.3E-01	0.83
Manganese	3.8E-04	8.4E-04	3.00E-03	3.00E-03			6.8E-02	1.4E-04	8.45E-04	1.36E-03	1.36E-03				2.55E-02	0.03
Mercury	2.6E-04	4.2E-04	1.13E-04	1.13E-04				9.5E-05	4.22E-04	5.14E-05	5.14E-05					4.2E-04
Nickel	2.1E-03	4.2E-04	8.45E-02	8.45E-02			1.1E-02	7.7E-04	4.22E-04	3.84E-02	3.84E-02				4.13E-03	0.038
Selenium	2.4E-05	2.1E-03	6.83E-04	6.83E-04			negl	8.8E-06	2.11E-03	3.11E-04	3.11E-04				negl	2.1E-03
1,1,1-Trichloroethane			2.36E-04	2.36E-04						1.07E-04	1.07E-04					1.1E-04
1,3-Butadiene																0.0E+00
Acetaldehyde																0.0E+00
Acrolein																0.0E+00
Benzene	2.1E-03		2.14E-04	2.14E-04				7.7E-04		9.73E-05	9.73E-05					7.7E-04
Bis(2-ethylhexyl)phthalate							2.2E-03								8.25E-04	8.3E-04
Dichlorobenzene	1.2E-03						8.0E-07	4.4E-04							3.00E-07	4.4E-04
Ethylbenzene			6.36E-05	6.36E-05						2.89E-05	2.89E-05					2.9E-05
Formaldehyde	7.5E-02	6.10E-02	3.30E-02	3.30E-02				2.7E-02	6.13E-02	1.50E-02	1.50E-02					0.061
Hexane	1.8E+00							0.66								0.659
Phenol							2.4E-03								9.00E-04	9.0E-04
Toluene	3.4E-03		6.20E-03	6.20E-03				1.2E-03		2.82E-03	2.82E-03				1.47E-02	2.8E-03
Total PAH Haps	negl		1.13E-03	1.13E-03			3.9E-02	negl		5.14E-04	5.14E-04					1.5E-02
Polycyclic Organic Matter		3.30E-03							3.32E-03							3.3E-03
Xylene			1.09E-04	1.09E-04						4.96E-05	4.96E-05					5.0E-05
Total HAPs								0.69	0.07	0.07	0.07	0	0	10.82	11.59	

Methodology

Natural Gas: Limited Potential to Emit (tons/yr) = (Natural Gas Limitation (MMCF/yr)) * (Emission Factor (lb/MMCF)) * (ton/2000 lbs)
 All Other Fuels: Limited Potential to Emit (tons/yr) = (Fuel Limitation (gals/yr)) * (Emission Factor (lb/kgal)) * (kgal/1000 gal) * (ton/2000 lbs)
 Sources of AP-42 Emission Factors for fuel combustion:
 Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
 No. 2, No.4, and No.6 Fuel Oil: AP-42 Chapter 1.3 (dated 5/10), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11
 Propane and Butane: AP-42 Chapter 1.5 (dated 7/08), Tables 1.5-1 (assuming PM = PM10)
 Waste Oil: AP-42 Chapter 1.11 (dated 10/96), Tables 1.11-1, 1.11-2, 1.11-3, 1.11-4, and 1.11-5

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particulate Matter (<2.5 um)
 SO2 = Sulfur Dioxide
 NOx = Nitrous Oxides
 VOC = Volatile Organic Compounds
 CO = Carbon Monoxide
 HAP = Hazardous Air Pollutant
 HCl = Hydrogen Chloride
 PAH = Polyaromatic Hydrocarbon

*Since there are no specific AP-42 HAP emission factors for combustion of No. 4 fuel oil, it was assumed that HAP emissions from combustion of No. 4 fuel oil were equal to combustion of residual or No. 6 fuel oil.

**Appendix A.2: Limited Emissions Summary
Greenhouse Gas (CO₂e) Emissions from the
Dryer/Mixer Fuel Combustion with Maximum Capacity ≥ 100 MMBtu/hr**

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

The following calculations determine the limited emissions created from the combustion of natural gas, fuel oil, propane, butane, or used/waste oil in the dryer/mixer and all other fuel combustion sources at the source.

Fuel Limitations

Maximum Fuel Input Rate =	123	MMBtu/hr								
Natural Gas Limitation =	732	MMCF/yr								
No. 2 Fuel Oil Limitation =	2,011,134	gal/yr, and	0.50	% sulfur						
No. 4 Fuel Oil Limitation =	909,494	gal/yr, and	1.00	% sulfur						
Residual (No. 5 or No. 6) Fuel Oil Limitation =	909,494	gal/yr, and	1.00	% sulfur						
Propane Limitation =	0	gal/yr, and	0.20	gr/100 ft ³ sulfur						
Butane Limitation =	0	gal/yr, and	0.22	gr/100 ft ³ sulfur						
Used/Waste Oil Limitation =	750,000	gal/yr, and	1.00	% sulfur	0.70	% ash	0.400	% chlorine,	0.040	% lead

Limited Emissions

CO ₂ e Fraction	Emission Factor (units)							Global Warming Potentials (GWP)		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	No. 4 Fuel Oil (lb/kgal)	Residual (No. 5 or No. 6) Fuel Oil (lb/kgal)	Propane (lb/kgal)	Butane (lb/kgal)	Used/Waste Oil (lb/kgal)	Name	Chemical Formula	Global warming potential
CO ₂	120,161.84	22,501.41	24,153.46	24,835.04	12,500.00	14,506.73	22,024.15	Carbon dioxide	CO ₂	1
CH ₄	2.49	0.91	0.97	1.00	0.60	0.67	0.89	Methane	CH ₄	21
N ₂ O	2.20	0.26	0.19	0.53	0.90	0.90	0.18	Nitrous oxide	N ₂ O	310

CO ₂ e Fraction	Limited Potential to Emit (tons/yr)						
	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	No. 4 Fuel Oil (tons/yr)	Residual (No. 5 or No. 6) Fuel Oil (tons/yr)	Propane (tons/yr)	Butane (tons/yr)	Used/Waste Oil (tons/yr)
CO ₂	44,007.42	22,626.67	10,983.71	11,293.66	0.00	0.00	8,259.06
CH ₄	0.91	0.92	0.44	0.45	0.00	0.00	0.33
N ₂ O	0.81	0.26	0.09	0.24	0.00	0.00	0.07
Total	44,009.14	22,627.85	10,984.24	11,294.35	0.00	0.00	8,259.47
CO₂e Equivalent Emissions (tons/yr)	44,276.37	22,727.00	11,020.16	11,377.92	0.00	0.00	8,287.02

CO₂e for Worst Case Fuel* (tons/yr)
44,276.37

Methodology

Fuel Limitations from TSD Appendix A.2, page 1 of 15.

Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)

Natural Gas: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/MMCF. Emission Factor for N₂O from AP-42 Chapter No. 2, No. 4, and Residual (No. 5 or No. 6) Fuel Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N₂O from AP-42 Chapter 1.3 Oil: (dated 5/10), Table 1.3-8

Propane and Butane: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal. Emission Factor for N₂O from AP-42 Chapter 1.5 (dated 7/08), Table 1.5-1

Waste Oil: Emission Factors for CO₂, CH₄, and N₂O from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from kg/mmBtu to lb/kgal.

Emission Factor (EF) Conversions

Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of Natural Gas (MMBtu/scf) * Conversion Factor (1,000,000 scf/MMCF)]

Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]

Natural Gas: Limited Potential to Emit (tons/yr) = (Natural Gas Limitation (MMCF/yr)) * (Emission Factor (lb/MMCF)) * (ton/2000 lbs)

All Other Fuels: Limited Potential to Emit (tons/yr) = (Fuel Limitation (gals/yr)) * (Emission Factor (lb/kgal)) * (kgal/1000 gal) * (ton/2000 lbs)

Limited CO₂e Emissions (tons/yr) = CO₂ Potential Emission of "worst case" fuel (ton/yr) x CO₂ GWP (1) + CH₄ Potential Emission of "worst case" fuel (ton/yr) x CH₄ GWP (21) + N₂O Potential Emission of "worst case" fuel (ton/yr) x N₂O GWP (310).

Abbreviations

CH₄ = Methane

CO₂ = Carbon Dioxide

N₂O = Nitrogen Dioxide

PTE = Potential to Emit

**Appendix A.2: Limited Emissions Summary
Greenhouse Gas (CO₂e) Emissions from the
Drum-Mix Plant (Dryer/Mixer) Process Emissions**

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

The following calculations determine the limited emissions from the aggregate drying/mixing

Maximum Hourly Asphalt Production = 300 ton/hr
 Annual Asphalt Production Limitation = 1,359,521 ton/yr

Criteria Pollutant	Emission Factor (lb/ton) Drum-Mix Plant (dryer/mixer)			Global Warming Potentials (GWP)	Limited Potential to Emit (tons/yr) Drum-Mix Plant (dryer/mixer)			CO ₂ e for Worst Case Fuel (tons/yr)
	Natural Gas	No. 2 Fuel Oil	Waste Oil		Natural Gas	No. 2 Fuel Oil	Waste Oil	
CO ₂	33	33	33	1	22,432.10	22,432.10	22,432.10	22,603.40
CH ₄	0.0120	0.0120	0.0120	21	8.16	8.16	8.16	
N ₂ O				310	0	0	0	
Total					22,440.25	22,440.25	22,440.25	
CO ₂ e Equivalent Emissions (tons/yr)					22,603.40	22,603.40	22,603.40	

Methodology

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-7 and 11.1-8

There are no emission factors for N₂O available in either the 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no N₂O emission anticipated from this process.

Limited/Controlled Potential to Emit (tons/yr) = (Annual Asphalt Production Limitation (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)

Natural gas, No. 2 fuel oil, and waste oil represent the worst possible emissions scenario. AP-42 did not provide emission factors for any other fuels.

Limited CO₂e Emissions (tons/yr) = CO₂ Potential Emission of "worst case" fuel (ton/yr) x CO₂ GWP (1) + CH₄ Potential Emission of "worst case" fuel (ton/yr) x CH₄ GWP (21) + N₂O Potential Emission of "worst case" fuel (ton/yr) x N₂O GWP (310).

Abbreviations

CO₂ = Carbon Dioxide

CH₄ = Methane

N₂O = Nitrogen Dioxide

PTE = Potential to Emit

**Appendix A.2: Limited Emissions Summary
Dryer/Mixer Slag Processing**

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

The following calculations determine the limited emissions from the processing of slag in the aggregate drying/mixing

Limited Blast Furnace Slag Usage =

50,000

 ton/yr

1.50

 % sulfur
 Limited Annual Steel Slag Usage =

679,761

 ton/yr

0.66

 % sulfur

Type of Slag	SO2 Emission Factor (lb/ton)	Limited Potential to Emit SO2 (tons/yr)
Blast Furnace Slag*	0.7400	18.5
Steel Slag**	0.0014	0.48

Methodology

* Testing results for blast furnace slag, obtained January 9, 2009 from similar operations at Rieth-Riley Construction Co., Inc. facility located in Valparaiso, IN (permit #127-27075-05241), produced an Emission Factor of 0.54 lb/ton from blast furnace slag containing 1.10% sulfur content. The source has requested a safety factor of 0.20 lb/ton be added to the tested value for use at this location to allow for a sulfur content up to 1.5%.

** Testing results for steel slag, obtained June 2009 from E & B Paving, Inc. facility located in Huntington, IN. The testing results showed a steel slag emission factor of 0.0007 lb/ton from slag containing 0.33% sulfur content.

Limited Potential to Emit SO2 from Slag (tons/yr) = [(Limited Slag Usage (ton/yr)) * [Emission Factor (lb/ton)] * [ton/2000 lbs]

Abbreviations

SO2 = Sulfur Dioxide

Appendix A.2: Limited Emissions Summary
Hot Oil Heater
Fuel Combustion with Maximum Capacity < 100 MMBtu/hr

Company Name: Brooks Construction Company, Inc.
Source Location: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

Maximum Hot Oil Heater Fuel Input Rate = 1.96 MMBtu/hr
 Natural Gas Usage = 17 MMCF/yr
 No. 2 Fuel Oil Usage = 122,640 gal/yr, and 0.50 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case Fuel (tons/yr)
	Hot Oil Heater		Hot Oil Heater		
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)	Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)	
PM	1.9	2.0	0.016	0.123	0.12
PM10/PM2.5	7.6	3.3	0.065	0.202	0.20
SO2	0.6	71.0	0.005	4.354	4.35
NOx	100	20.0	0.858	1.226	1.23
VOC	5.5	0.20	0.047	0.012	0.05
CO	84	5.0	0.721	0.307	0.72
Hazardous Air Pollutant					
Arsenic	2.0E-04	5.6E-04	1.7E-06	3.43E-05	3.4E-05
Beryllium	1.2E-05	4.2E-04	1.0E-07	2.58E-05	2.6E-05
Cadmium	1.1E-03	4.2E-04	9.4E-06	2.58E-05	2.6E-05
Chromium	1.4E-03	4.2E-04	1.2E-05	2.58E-05	2.6E-05
Cobalt	8.4E-05		7.2E-07		7.2E-07
Lead	5.0E-04	1.3E-03	4.3E-06	7.73E-05	7.7E-05
Manganese	3.8E-04	8.4E-04	3.3E-06	5.15E-05	5.2E-05
Mercury	2.6E-04	4.2E-04	2.2E-06	2.58E-05	2.6E-05
Nickel	2.1E-03	4.2E-04	1.8E-05	2.58E-05	2.6E-05
Selenium	2.4E-05	2.1E-03	2.1E-07	1.29E-04	1.3E-04
Benzene	2.1E-03		1.8E-05		1.8E-05
Dichlorobenzene	1.2E-03		1.0E-05		1.0E-05
Ethylbenzene					0
Formaldehyde	7.5E-02	6.10E-02	6.4E-04	3.74E-03	0.004
Hexane	1.8E+00		0.02		0.015
Phenol					0
Toluene	3.4E-03		2.9E-05		2.9E-05
Total PAH Haps	negl		negl		0
Polycyclic Organic Matter		3.30E-03		2.02E-04	2.0E-04

Total HAPs = 1.6E-02 4.4E-03 0.020
Worst Single HAP = 1.5E-02 3.7E-03 1.5E-02
 (Hexane) (Formaldehyde) (Hexane)

Methodology

Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
 Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]
 Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]
 All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [ton/2000 lbs]
 Sources of AP-42 Emission Factors for fuel combustion:

Natural Gas : AP-42 Chapter 1.4 (dated 7/98), Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4
 No. 2 Fuel Oil: AP-42 Chapter 1.3 (dated 5/10), Tables 1.3-1, 1.3-2, 1.3-3, 1.3-8, 1.3-9, 1.3-10, and 1.3-11

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particulate Matter (<2.5 um)
 SO2 = Sulfur Dioxide
 NOx = Nitrous Oxides
 VOC = Volatile Organic Compounds
 CO = Carbon Monoxide
 HAP = Hazardous Air Pollutant
 HCl = Hydrogen Chloride
 PAH = Polyaromatic Hydrocarbon

**Appendix A.2: Limited Emissions Summary
Greenhouse Gas (CO₂e) Emissions from
Hot Oil Heater Fuel Combustion with Maximum Capacity < 100 MMBtu/hr**

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

Maximum Hot Oil Heater Fuel Input Rate =

1.96

 MMBtu/hr
 Natural Gas Usage =

17.17

 MMCF/yr
 No. 2 Fuel Oil Usage =

122,640.00

 gal/yr,

0.50

 % sulfur

Unlimited/Uncontrolled Emissions

Criteria Pollutant	Emission Factor (units)		Global Warming Potentials (GWP)	Unlimited/Uncontrolled Potential to Emit (tons/yr)	
	Natural Gas (lb/MMCF)	No. 2 Fuel Oil (lb/kgal)		Natural Gas (tons/yr)	No. 2 Fuel Oil (tons/yr)
CO ₂	120,161.84	22,501.41	1	1,031.57	1,379.79
CH ₄	2.49	0.91	21	0.021	5.60E-02
N ₂ O	2.20	0.26	310	0.019	1.59E-02
Total				1,031.61	1,379.86

Worse Case CO ₂ e Emissions (tons/yr)
1,385.90

CO ₂ e Equivalent Emissions (tons/yr)	1,037.87	1,385.90
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Methodology

Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Sources of Emission Factors for fuel combustion: (Note: To form a conservative estimate, the "worst case" emission factors have been used.)

Natural Gas : Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from

No. 2 Fuel Oil: Emission Factors for CO₂ and CH₄ from 40 CFR Part 98 Subpart C, Tables C-1 and 2, have been converted from

Emission Factor (EF) Conversions

Natural Gas: EF (lb/MMCF) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of Natural Gas (MMBtu/scf) * Conversion Factor (1,000,000 scf/MMCF)]

Fuel Oils: EF (lb/kgal) = [EF (kg/MMBtu) * Conversion Factor (2.20462 lbs/kg) * Heating Value of the Fuel Oil (MMBtu/gal) * Conversion Factor (1000 gal/kgal)]

Equivalent Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]

Equivalent Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]

Natural Gas: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Natural Gas Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2000 lbs]

All Other Fuels: Unlimited/Uncontrolled Potential to Emit (tons/yr) = [Maximum Fuel Usage (gals/yr)] * [Emission Factor (lb/kgal)] * [kgal/1000 gal] * [ton/2000 lbs]

Unlimited Potential to Emit CO₂e (tons/yr) = Unlimited Potential to Emit CO₂ of "worst case" fuel (ton/yr) x CO₂ GWP (1) + Unlimited Potential to Emit CH₄ of "worst case" fuel (ton/yr) x CH₄ GWP (21) + Unlimited Potential to Emit N₂O of "worst case" fuel (ton/yr) x N₂O GWP (310).

Abbreviations

CH₄ = Methane
 CO₂ = Carbon Dioxide

N₂O = Nitrogen Dioxide
 PTE = Potential to Emit

**Appendix A.2: Limited Emissions Summary
Hot Oil Heating System - Process Emissions**

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

The following calculations determine the unlimited/uncontrolled emissions from the combustion of natural gas and No. 2 fuel oil in the hot oil heating system, which is used to heat a specially designed transfer oil. The hot transfer oil is then pumped through a piping system that passes through the asphalt cement storage tanks, in order to keep the asphalt cement at the correct temperature.

Maximum Fuel Input Rate To Hot Oil Heater = 1.96 MMBtu/hr
 Natural Gas Usage = 17.17 MMCF/yr, and
 No. 2 Fuel Oil Usage = 122,640.00 gal/yr

Criteria Pollutant	Emission Factors		Unlimited/Uncontrolled Potential to Emit (tons/yr)		Worse Case PTE
	Natural Gas (lb/ft3)	No. 2 Fuel Oil (lb/gal)	Natural Gas	No. 2 Fuel Oil	
VOC	2.60E-08	2.65E-05	2.23E-04	0.002	0.002
CO	8.90E-06	0.0012	0.076	0.074	0.076
Greenhouse Gas as CO2e*					
CO2	0.20	28.00	1716.96	1716.96	1,716.96
Hazardous Air Pollutant					
Formaldehyde	2.60E-08	3.50E-06	2.23E-04	2.15E-04	2.23E-04
Acenaphthene		5.30E-07		3.25E-05	3.25E-05
Acenaphthylene		2.00E-07		1.23E-05	1.23E-05
Anthracene		1.80E-07		1.10E-05	1.10E-05
Benzo(b)fluoranthene		1.00E-07		6.13E-06	6.13E-06
Fluoranthene		4.40E-08		2.70E-06	2.70E-06
Fluorene		3.20E-08		1.96E-06	1.96E-06
Naphthalene		1.70E-05		1.04E-03	1.04E-03
Phenanthrene		4.90E-06		3.00E-04	3.00E-04
Pyrene		3.20E-08		1.96E-06	1.96E-06

Total HAPs 1.63E-03
Worst Single HAP 1.04E-03 (Naphthalene)

Methodology

Natural Gas Usage (MMCF/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]

No. 2 Fuel Oil Usage (gal/yr) = [Maximum Fuel Input Rate (MMBtu/hr)] * [8,760 hrs/yr] * [1 gal/0.140 MMBtu]

Natural Gas: Potential to Emit (tons/yr) = (Natural Gas Usage (MMCF/yr))*(Emission Factor (lb/CF))*(1000000 CF/MMCF)*(ton/2000 lbs)

No. 2 Fuel Oil: Potential to Emit (tons/yr) = (No. 2 Fuel Oil Usage (gals/yr))*(Emission Factor (lb/gal))*(ton/2000 lbs)

Unlimited Potential to Emit CO2e (tons/yr) = Unlimited Potential to Emit CO2 (ton/yr) x CO2 GWP (1)

1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu

Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Table 11.1-13

*Note: There are no emission factors for CH4 and N2O available in either 40 CFR 98, Subpart C or AP-42 Chapter 11.1. Therefore, it is assumed that there are no CH4 and N2O emission anticipated from this process.

Abbreviations

CO = Carbon Monoxide

VOC = Volatile Organic Compound

CO2 = Carbon Dioxide

Appendix A.2: Limited Emissions Summary
Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (<=600 HP)

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivanon

Output Horsepower Rating (hp)	0.0
Limited Hours Operated per Year	4011
Limited Throughput (hp-hr/yr)	0
Limited Diesel Fuel Usage (gal/yr)	0

	Pollutant						
	PM ²	PM10 ²	direct PM2.5 ²	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Emission Factor in lb/kgal	43.07	43.07	43.07	40.13	606.85	49.22	130.77
Limited Emission in tons/yr	0.00	0.00	0.00	0.00	0.00	0.00	0.00

¹The AP-42 Chapter 3.3-1 emission factors in lb/hp-hr were converted to lb/kgal emission factors using an average brake specific fuel consumption of 7,000 Btu / hp-hr, diesel heating value of 19,300 Btu / lb, and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

²Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 1/7,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

³PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Hazardous Air Pollutants (HAPs)

	Pollutant							Total PAH HAPs ⁴
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	
Emission Factor in lb/MMBtu	9.33E-04	4.08E-04	2.85E-04	3.91E-05	1.18E-03	7.67E-04	9.25E-05	1.68E-04
Emission Factor in lb/kgal	1.38E-01	5.60E-02	3.91E-02	5.36E-03	1.62E-01	1.05E-01	1.27E-02	2.30E-02
Limited Emission in tons/yr	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

⁴PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

⁵The AP-42 Chapter 3.3-1 emission factors in lb/MMBtu were converted to lb/kgal emission factors using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁶Emission factor (lb/kgal) = AP-42 EF (lb/MMBtu) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Limited Emission of Total HAPs (tons/yr)	0.00E+00
Limited Emission of Worst Case HAPs (tons/yr)	0.00E+00

Green House Gas Emissions (GHG)

	Pollutant		
	CO2 ⁵	CH4 ⁶	N2O ⁶
Emission Factor in lb/hp-hr	1.15	NA	NA
Emission Factor in kg/MMBtu	NA	0.003	0.0006
Emission Factor in lb/kgal	22,512.07	0.91	0.18
Limited Emission in tons/yr	0.00	0.000	0.000

⁷The AP-42 Chapter 3.3-1 emission factor in lb/hp-hr was converted to lb/kgal emission factor using an average brake specific fuel consumption of 7,000 Btu / hp-hr, diesel heating value of 19,300 Btu / lb, and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁸Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 1/7,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

⁹The 40 CFR 98 Subpart C emission factors in kg/MMBtu were converted to lb/kgal emission factors using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

¹⁰Emission factor (lb/kgal) = 40 CFR 98 EF (kg/MMBtu) * 2.20462 (lb/kg) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Summed Limited Emissions in tons/yr	0.00
CO2e Total in tons/yr	0.00

Methodology

Limited Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Limited Hours Operated per Year]

Limited Diesel Fuel Usage (gal/yr) = Limited Throughput (hp-hr/yr) * 7000 (Btu/hp-hr) * 1/19300 (lb/Btu) * 1/7.1 (gal/lb)

Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2 and have been converted to lb/kgal

CH4 and N2O Emission Factor from 40 CFR 98 Subpart C Table C-2 and have been converted to lb/kgal

Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Limited Emissions (tons/yr) = [Limited Diesel Fuel Usage (gal/yr) x Emission Factor (lb/kgal)] / (1,000 gal/kgal) / (2,000 lb/ton)

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A.2: Limited Emissions Summary
Large Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (>600 HP)

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

Output Horsepower Rating (hp)	880.0	Sulfur Content (S) of Fuel (% by weight)	0.50
Limited Hours Operated per Year	2669		
Limited Throughput (hp-hr/yr)	2,349,066		
Limited Diesel Fuel Usage (gal/yr)	120,000		

	Pollutant						
	PM	PM10 ²	direct PM2.5 ²	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	7.00E-04			4.05E-03 (.00809S)	2.40E-02	7.05E-04	5.50E-03
Emission Factor in lb/MMBtu		0.0573	0.0573				
Emission Factor in lb/kgal ¹	13.70	7.85	7.85	79.18	469.82	13.80	107.67
Limited Emission in tons/yr	0.82	0.47	0.47	4.75	28.19	0.83	6.46

¹The AP-42 Chapter 3.4-1 emission factors in lb/hp-hr were converted to lb/kgal emission factors using an average brake specific fuel consumption of 7,000 Btu / hp-hr, diesel heating value of 19,300 Btu / lb, and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

²Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 1/7,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

³Emission factors in lb/kgal were converted from the AP-42 Chapter 3.4-1 emission factors in lb/MMBtu using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁴Emission factor (lb/kgal) = AP-42 EF (lb/MMBtu) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Hazardous Air Pollutants (HAPs)

	Pollutant						Total PAH HAPs ¹
	Benzene	Toluene	Xylene	Formaldehyde	Acetaldehyde	Acrolein	
Emission Factor in lb/MMBtu	7.76E-04	2.81E-04	1.93E-04	7.89E-05	2.52E-05	7.88E-06	2.12E-04
Emission Factor in lb/kgal ²	1.06E-01	3.85E-02	2.64E-02	1.08E-02	3.45E-03	1.08E-03	2.91E-02
Limited Emission in tons/yr	6.38E-03	2.31E-03	1.59E-03	6.49E-04	2.07E-04	6.48E-05	1.74E-03

¹PAH = Polycyclic Aromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

²Emission factors in lb/kgal were converted from the AP-42 Chapter 3.4-1 emission factors in lb/MMBtu using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

³Emission factor (lb/kgal) = AP-42 EF (lb/MMBtu) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Limited Emission of Total HAPs (tons/yr)	1.29E-02
Limited Emission of Worst Case HAPs (tons/yr)	6.38E-03

Green House Gas Emissions (GHG)

	Pollutant		
	CO2 ⁵	CH4 ^{5,6}	N2O ⁷
Emission Factor in lb/hp-hr	1.16	6.35E-05	NA
Emission Factor in kg/MMBtu	NA	NA	0.0006
Emission Factor in lb/kgal	22,707.83	1.24	0.18
Limited Emission in tons/yr	1,362.47	0.07	0.01

⁵The AP-42 Chapter 3.4-1 emission factors in lb/hp-hr were converted to lb/kgal emission factors using an average brake specific fuel consumption of 7,000 Btu / hp-hr, diesel heating value of 19,300 Btu / lb, and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

⁶Emission factor (lb/kgal) = AP-42 EF (lb/hp-hr) * 1/7,000 (hp-hr/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

⁸According to AP-42, Table 3.4-1, TOC (as CH4) is 9% methane by weight. As a result, the lb/hp-hr emission factor for TOC (as CH4) in AP-42 has been multiplied by 9% to determine the portion that is emitted as methane.

⁷The 40 CFR 98 Subpart C emission factors in kg/MMBtu were converted to lb/kgal emission factors using an average diesel heating value of 19,300 Btu / lb and diesel fuel density of 7.1 lb / gal (AP-42 Tables 3.3-1 and 3.4.1) since the source will limit the emissions from this unit by limiting the fuel usage.

²Emission factor (lb/kgal) = 40 CFR 98 EF (kg/MMBtu) * 2.20462 (lb/kg) * 1/10⁶ (MMBtu/Btu) * 19,300 (Btu/lb) * 7.1 (lb/gal) * 1,000 (gal/kgal)

Summed Potential Emissions in tons/yr	1,362.56
CO2e Total in tons/yr	1,367.41

Methodology

Limited Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Limited Hours Operated per Year]

Limited Diesel Fuel Usage (gal/yr) = Limited Throughput (hp-hr/yr) * 7000 (Btu/hp-hr) * 1/19300 (lb/Btu) * 1/7.1 (gal/lb)

Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1, 3.4-2, 3.4-3, and 3.4-4 and have been converted to lb/kgal.

N2O Emission Factor from 40 CFR 98 Subpart C Table C-2 and have been converted to lb/kgal.

Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Limited Emissions (tons/yr) = [Limited Diesel Fuel Usage (gal/yr) x Emission Factor (lb/kgal)] / (1,000 gal/kgal) / (2,000 lb/ton)

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O

Potential Emission ton/yr x N2O GWP (310).

**Appendix A.2: Limited Emissions Summary
Asphalt Load-Out, Silo Filling, and Yard Emissions**

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

The following calculations determine the limited fugitive emissions from hot asphalt mix load-out, silo filling, and on-site yard for a drum mix hot mix asphalt plant

Asphalt Temperature, T =	325	F
Asphalt Volatility Factor, V =	-0.5	
Annual Asphalt Production Limitation =	1,359,521	tons/yr

Pollutant	Emission Factor (lb/ton asphalt)			Limited Potential to Emit (tons/yr)			
	Load-Out	Silo Filling	On-Site Yard	Load-Out	Silo Filling	On-Site Yard	Total
Total PM*	5.2E-04	5.9E-04	NA	0.35	0.40	NA	0.75
Organic PM	3.4E-04	2.5E-04	NA	0.23	0.173	NA	0.40
TOC	0.004	0.012	0.001	2.83	8.28	0.748	11.9
CO	0.001	0.001	3.5E-04	0.92	0.802	0.239	1.96

NA = Not Applicable (no AP-42 Emission Factor)

PM/HAPs	0.016	0.020	0	0.036
VOC/HAPs	0.042	0.105	0.011	0.158
non-VOC/HAPs	2.2E-04	2.2E-05	5.8E-05	3.0E-04
non-VOC/non-HAPs	0.21	0.12	0.05	0.38

Total VOCs	2.66	8.28	0.7	11.6
Total HAPs	0.06	0.13	0.011	0.19
			Worst Single HAP	0.060
				(formaldehyde)

Methodology

The asphalt temperature and volatility factor were provided by the source.
 Limited Potential to Emit (tons/yr) = (Annual Asphalt Production Limitation (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
 Emission Factors from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-14, 11.1-15, and 11.1-16
 Plant Load-Out Emission Factor Equations (AP-42 Table 11.1-14):

$$\begin{aligned} \text{Total PM/PM10 Ef} &= 0.000181 + 0.00141(-V)^e \cdot (0.0251)(T+460)^{-20.43} \\ \text{Organic PM Ef} &= 0.00141(-V)^e \cdot (0.0251)(T+460)^{-20.43} \\ \text{TOC Ef} &= 0.0172(-V)^e \cdot (0.0251)(T+460)^{-20.43} \\ \text{CO Ef} &= 0.00558(-V)^e \cdot (0.0251)(T+460)^{-20.43} \end{aligned}$$

Silo Filling Emission Factor Equations (AP-42 Table 11.1-14):

$$\begin{aligned} \text{PM/PM10 Ef} &= 0.000332 + 0.00105(-V)^e \cdot (0.0251)(T+460)^{-20.43} \\ \text{Organic PM Ef} &= 0.00105(-V)^e \cdot (0.0251)(T+460)^{-20.43} \\ \text{TOC Ef} &= 0.0504(-V)^e \cdot (0.0251)(T+460)^{-20.43} \\ \text{CO Ef} &= 0.00488(-V)^e \cdot (0.0251)(T+460)^{-20.43} \end{aligned}$$

On Site Yard CO emissions estimated by multiplying the TOC emissions by 0.32

*No emission factors available for PM10 or PM2.5, therefore IDEM assumes PM10 and PM2.5 are equivalent to Total PM.

Abbreviations

- TOC = Total Organic Compounds
- CO = Carbon Monoxide
- PM = Particulate Matter
- PM10 = Particulate Matter (<10 um)
- PM2.5 = Particulate Matter (<2.5 um)
- HAP = Hazardous Air Pollutant
- VOC = Volatile Organic Compound

**Appendix A.2: Limited Emissions Summary
Asphalt Load-Out, Silo Filling, and Yard Emissions (continued)**

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

Organic Particulate-Based Compounds (Table 11.1-15)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of Total Organic PM)	Silo Filling and Asphalt Storage Tank (% by weight of Total Organic PM)	Load-out	Silo Filling	Onsite Yard	Total
PAH HAPs										
Acenaphthene	83-32-9	PM/HAP	POM	Organic PM	0.26%	0.47%	6.0E-04	8.1E-04	NA	1.4E-03
Acenaphthylene	208-96-8	PM/HAP	POM	Organic PM	0.028%	0.014%	6.5E-05	2.4E-05	NA	8.9E-05
Anthracene	120-12-7	PM/HAP	POM	Organic PM	0.07%	0.13%	1.6E-04	2.2E-04	NA	3.9E-04
Benzo(a)anthracene	56-55-3	PM/HAP	POM	Organic PM	0.019%	0.056%	4.4E-05	9.7E-05	NA	1.4E-04
Benzo(b)fluoranthene	205-99-2	PM/HAP	POM	Organic PM	0.0076%	0	1.8E-05	0	NA	1.8E-05
Benzo(k)fluoranthene	207-08-9	PM/HAP	POM	Organic PM	0.0022%	0	5.1E-06	0	NA	5.1E-06
Benzo(g,h,i)perylene	191-24-2	PM/HAP	POM	Organic PM	0.0019%	0	4.4E-06	0	NA	4.4E-06
Benzo(a)pyrene	50-32-8	PM/HAP	POM	Organic PM	0.0023%	0	5.3E-06	0	NA	5.3E-06
Benzo(e)pyrene	192-97-2	PM/HAP	POM	Organic PM	0.0078%	0.0095%	1.8E-05	1.6E-05	NA	3.4E-05
Chrysene	218-01-9	PM/HAP	POM	Organic PM	0.103%	0.21%	2.4E-04	3.6E-04	NA	6.0E-04
Dibenz(a,h)anthracene	53-70-3	PM/HAP	POM	Organic PM	0.00037%	0	8.6E-07	0	NA	8.6E-07
Fluoranthene	206-44-0	PM/HAP	POM	Organic PM	0.05%	0.15%	1.2E-04	2.6E-04	NA	3.7E-04
Fluorene	86-73-7	PM/HAP	POM	Organic PM	0.77%	1.01%	1.8E-03	1.7E-03	NA	3.5E-03
Indeno(1,2,3-cd)pyrene	193-39-5	PM/HAP	POM	Organic PM	0.00047%	0	1.1E-06	0	NA	1.1E-06
2-Methylnaphthalene	91-57-6	PM/HAP	POM	Organic PM	2.38%	5.27%	5.5E-03	9.1E-03	NA	0.015
Naphthalene	91-20-3	PM/HAP	POM	Organic PM	1.25%	1.82%	2.9E-03	3.1E-03	NA	6.0E-03
Perylene	198-55-0	PM/HAP	POM	Organic PM	0.022%	0.03%	5.1E-05	5.2E-05	NA	1.0E-04
Phenanthrene	85-01-8	PM/HAP	POM	Organic PM	0.81%	1.80%	1.9E-03	3.1E-03	NA	5.0E-03
Pyrene	129-00-0	PM/HAP	POM	Organic PM	0.15%	0.44%	3.5E-04	7.6E-04	NA	1.1E-03
Total PAH HAPs							0.014	0.020	NA	0.033
Other semi-volatile HAPs										
Phenol		PM/HAP	---	Organic PM	1.18%	0	2.7E-03	0	0	2.7E-03

NA = Not Applicable (no AP-42 Emission Factor)

Methodology

Limited Potential to Emit (tons/yr) = [Speciation Profile (%)] * [Organic PM (tons/yr)]

Speciation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

Abbreviations

PM = Particulate Matter

HAP = Hazardous Air Pollutant

POM = Polycyclic Organic Matter

**Appendix A.2: Limited Emissions Summary
Asphalt Load-Out, Silo Filling, and Yard Emissions (continued)
Limited Emissions**

Organic Volatile-Based Compounds (Table 11.1-16)

Pollutant	CASRN	Category	HAP Type	Source	Speciation Profile		Limited Potential to Emit (tons/yr)			
					Load-out and Onsite Yard (% by weight of TOC)	Silo Filling and Asphalt Storage Tank (% by weight of TOC)	Load-out	Silo Filling	Onsite Yard	Total
VOC		VOC	---	TOC	94%	100%	2.66	8.28	0.70	11.64
non-VOC/non-HAPS										
Methane	74-82-8	non-VOC/non-HAP	---	TOC	6.50%	0.26%	1.8E-01	2.2E-02	4.9E-02	0.254
Acetone	67-64-1	non-VOC/non-HAP	---	TOC	0.046%	0.055%	1.3E-03	4.6E-03	3.4E-04	0.006
Ethylene	74-85-1	non-VOC/non-HAP	---	TOC	0.71%	1.10%	2.0E-02	9.1E-02	5.3E-03	0.117
Total non-VOC/non-HAPS					7.30%	1.40%	0.206	0.116	0.055	0.38
Volatile organic HAPs										
Benzene	71-43-2	VOC/HAP	---	TOC	0.052%	0.032%	1.5E-03	2.7E-03	3.9E-04	4.5E-03
Bromomethane	74-83-9	VOC/HAP	---	TOC	0.0096%	0.0049%	2.7E-04	4.1E-04	7.2E-05	7.5E-04
2-Butanone	78-93-3	VOC/HAP	---	TOC	0.049%	0.039%	1.4E-03	3.2E-03	3.7E-04	5.0E-03
Carbon Disulfide	75-15-0	VOC/HAP	---	TOC	0.013%	0.016%	3.7E-04	1.3E-03	9.7E-05	1.8E-03
Chloroethane	75-00-3	VOC/HAP	---	TOC	0.00021%	0.004%	5.9E-06	3.3E-04	1.6E-06	3.4E-04
Chloromethane	74-87-3	VOC/HAP	---	TOC	0.015%	0.023%	4.2E-04	1.9E-03	1.1E-04	2.4E-03
Cumene	92-82-8	VOC/HAP	---	TOC	0.11%	0	3.1E-03	0	8.2E-04	3.9E-03
Ethylbenzene	100-41-4	VOC/HAP	---	TOC	0.28%	0.038%	7.9E-03	3.1E-03	2.1E-03	0.013
Formaldehyde	50-00-0	VOC/HAP	---	TOC	0.088%	0.69%	2.5E-03	5.7E-02	6.6E-04	0.060
n-Hexane	100-54-3	VOC/HAP	---	TOC	0.15%	0.10%	4.2E-03	8.3E-03	1.1E-03	0.014
Isooctane	540-84-1	VOC/HAP	---	TOC	0.0018%	0.00031%	5.1E-05	2.6E-05	1.3E-05	9.0E-05
Methylene Chloride	75-09-2	non-VOC/HAP	---	TOC	0	0.00027%	0	2.2E-05	0	2.2E-05
MTBE	1634-04-4	VOC/HAP	---	TOC	0	0	0	0	0	0
Styrene	100-42-5	VOC/HAP	---	TOC	0.0073%	0.0054%	2.1E-04	4.5E-04	5.5E-05	7.1E-04
Tetrachloroethene	127-18-4	non-VOC/HAP	---	TOC	0.0077%	0	2.2E-04	0	5.8E-05	2.8E-04
Toluene	100-88-3	VOC/HAP	---	TOC	0.21%	0.062%	5.9E-03	5.1E-03	1.6E-03	0.013
1,1,1-Trichloroethane	71-55-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichloroethene	79-01-6	VOC/HAP	---	TOC	0	0	0	0	0	0
Trichlorofluoromethane	75-69-4	VOC/HAP	---	TOC	0.0013%	0	3.7E-05	0	9.7E-06	4.6E-05
m-/p-Xylene	1330-20-7	VOC/HAP	---	TOC	0.41%	0.20%	1.2E-02	1.7E-02	3.1E-03	0.031
o-Xylene	95-47-6	VOC/HAP	---	TOC	0.08%	0.057%	2.3E-03	4.7E-03	6.0E-04	7.6E-03
Total volatile organic HAPs					1.50%	1.30%	0.042	0.108	0.011	0.161

Methodology

Limited Potential to Emit (tons/yr) = [Speciation Profile (%)] * [TOC (tons/yr)]
Speciation Profiles from AP-42 Chapter 11.1 (dated 3/04), Tables 11.1-15 and 11.1-16

Abbreviations

TOC = Total Organic Compounds
HAP = Hazardous Air Pollutant
VOC = Volatile Organic Compound
MTBE = Methyl tert butyl ether

**Appendix A.2: Limited Emissions Summary
Material Storage Piles**

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

Note: Since the emissions from the storage piles are minimal, the limited emissions are equal to the unlimited emissions.

The following calculations determine the amount of emissions created by wind erosion of storage stockpiles, based on 8,760 hours of use and USEPA's AP-42 (Pre 1983 Edition), Section 11.2.3.

$E_f = 1.7 * (s/1.5) * (365-p) / 235 * (f/15)$ <p>where E_f = emission factor (lb/acre/day) s = silt content (wt %) p = <input type="text" value="125"/> days of rain greater than or equal to 0.01 inches f = <input type="text" value="15"/> % of wind greater than or equal to 12 mph</p>

Material	Silt Content (wt %)*	Emission Factor (lb/acre/day)	Maximum Anticipated Pile Size (acres)**	PTE of PM (tons/yr)	PTE of PM10/PM2.5 (tons/yr)
Sand	2.6	3.01	0.00	0.000	0.000
Limestone	1.6	1.85	2.066	0.698	0.244
RAP	0.5	0.58	0.50	0.053	0.018
Gravel	1.6	1.85	0.00	0.000	0.000
Shingles	0.5	0.58	0.418	0.044	0.015
Slag	3.8	4.40	0.09	0.086	0.030
Totals				0.88	0.31

Methodology

PTE of PM (tons/yr) = (Emission Factor (lb/acre/day)) * (Maximum Pile Size (acres)) * (ton/2000 lbs) * (8760 hours/yr)

PTE of PM10/PM2.5 (tons/yr) = (Potential PM Emissions (tons/yr)) * 35%

*Silt content values obtained from AP-42 Table 13.2.4-1 (dated 1/95)

**Maximum anticipated pile size (acres) provided by the source.

PM2.5 = PM10

Abbreviations

RAP = recycled asphalt pavement

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

PM2.5 = Particulate Matter (<2.5 um)

PTE = Potential to Emit

Appendix A.2: Limited Emissions Summary
Material Processing, Handling, Crushing, Screening, and Conveying

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

Batch or Continuous Drop Operations (AP-42 Section 13.2.4)

To estimate potential fugitive dust emissions from processing and handling of raw materials (batch or continuous drop operations), AP-42 emission factors for Aggregate Handling, Section 13.2.4 (fifth edition, 1/95) are utilized.

$$E_f = k \cdot (0.0032) \cdot (U/5)^{1.3} / (M/2)^{1.4}$$

where:

- E_f = Emission factor (lb/ton)
- k (PM) = 0.74 = particle size multiplier (0.74 assumed for aerodynamic diameter <=100 um)
- k (PM10) = 0.35 = particle size multiplier (0.35 assumed for aerodynamic diameter <=10 um)
- k (PM2.5) = 0.053 = particle size multiplier (0.053 assumed for aerodynamic diameter <=2.5 um)
- U = 10.2 = worst case annual mean wind speed (Source: NOAA, 2006*)
- M = 4.0 = material % moisture content of aggregate (Source: AP-42 Section 11.1.1.1)
- E_f (PM) = 2.27E-03 lb PM/ton of material handled
- E_f (PM10) = 1.07E-03 lb PM10/ton of material handled
- E_f (PM2.5) = 1.62E-04 lb PM2.5/ton of material handled

Annual Asphalt Production Limitation = 1,359,521 tons/yr
 Percent Asphalt Cement/Binder (weight %) = 5.0%
 Maximum Material Handling Throughput = 1,291,545 tons/yr

Type of Activity	Limited PTE of PM (tons/yr)	Limited PTE of PM10 (tons/yr)	Limited PTE of PM2.5 (tons/yr)
Truck unloading of materials into storage piles	1.46	0.69	0.10
Front-end loader dumping of materials into feeder bins	1.46	0.69	0.10
Conveyor dropping material into dryer/mixer or batch tower	1.46	0.69	0.10
Total (tons/yr)	4.39	2.08	0.31

Methodology

The percent asphalt cement/binder provided by the source.
 Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Limited Potential to Emit (tons/yr) = (Maximum Material Handling Throughput (tons/yr)) * (Emission Factor (lb/ton)) * (ton/2000 lbs)
 Raw materials may include limestone, sand, recycled asphalt pavement (RAP), gravel, slag, and other additives
 *Worst case annual mean wind speed (Indianapolis, IN) from "Comparative Climatic Data", National Climatic Data Center, NOAA, 2006

Material Screening and Conveying (AP-42 Section 19.2.2)

To estimate potential fugitive dust emissions from raw material crushing, screening, and conveying, AP-42 emission factors for Crushed Stone Processing Operations, Section 19.2.2 (dated 8/04) are utilized.

Operation	Uncontrolled Emission Factor for PM (lbs/ton)*	Uncontrolled Emission Factor for PM10 (lbs/ton)*	Limited PTE of PM (tons/yr)	Limited PTE of PM10/PM2.5 (tons/yr)**
Crushing	0.0054	0.0024	0.00	0.00
Screening	0.025	0.0087	16.14	5.62
Conveying	0.003	0.0011	1.94	0.71
Limited Potential to Emit (tons/yr) =			18.08	6.33

Methodology

Maximum Material Handling Throughput (tons/yr) = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Limited Potential to Emit (tons/yr) = [Maximum Material Handling Throughput (tons/yr)] * [Emission Factor (lb/ton)] * (ton/2000 lbs)
 Raw materials may include stone/gravel, slag, and recycled asphalt pavement (RAP)
 Emission Factors from AP-42 Chapter 11.19.2 (dated 8/04), Table 11.19.2-2
 *Uncontrolled emissions factors for PM/PM10 represent tertiary crushing of stone with moisture content ranging from 0.21 to 1.3 percent by weight (Table 11.19.2-2). The bulk moisture content of aggregate in the storage piles at a hot mix asphalt production plant typically stabilizes between 3 to 5 percent by weight (Source: AP-42 Section 11.1.1.1).
 **Assumes PM10 = PM2.5

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particulate Matter (<2.5 um)
 PTE = Potential to Emit

**Appendix A.2: Limited Emissions Summary
Unpaved Roads**

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

Unpaved Roads at Industrial Site

The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.2 (12/2003).

Annual Asphalt Production Limitation	1,359,521	tons/yr
Percent Asphalt Cement/Binder (weight %)	5.0%	
Maximum Material Handling Throughput	1,291,545	tons/yr
Maximum Asphalt Cement/Binder Throughput	67,976	tons/yr
No. 2 Fuel Oil Limitation	2,011,134	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	24.0	41	5.4E+04	2.2E+06	300	0.057	3057.6
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.0	5.4E+04	9.1E+05	300	0.057	3057.6
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.0	1.9E+03	9.1E+04	250	0.047	89.4
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	1.9E+03	2.3E+04	250	0.047	89.4
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.0	2.1E+02	9.3E+03	250	0.047	10.1
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.0	2.1E+02	2.5E+03	250	0.047	10.1
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.5	19.5	2.9E+05	5.6E+06	150	0.028	8153.7
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.0	2.9E+05	4.3E+06	150	0.028	8153.7
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.0	5.7E+04	2.3E+06	250	0.047	2682.1
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.0	5.7E+04	9.6E+05	250	0.047	2682.1
Total					8.0E+05	1.6E+07			2.8E+04

Average Vehicle Weight Per Trip = $\frac{20.6}{0.035}$ tons/trip
 Average Miles Per Trip = $\frac{20.6}{0.035}$ miles/trip

Unmitigated Emission Factor, $E_f = k \left[\left(\frac{s}{12} \right)^a \right]^{1/(W/3)^b}$ (Equation 1a from AP-42 13.2.2)

	PM	PM10	PM2.5	
where k =	4.9	1.5	0.15	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	4.8	4.8	4.8	% = mean % silt content of unpaved roads (AP-42 Table 13.2.2-3 Sand/Gravel Processing Plant Road)
a =	0.7	0.9	0.9	= constant (AP-42 Table 13.2.2-2)
W =	20.6	20.6	20.6	tons = average vehicle weight (provided by source)
b =	0.45	0.45	0.45	= constant (AP-42 Table 13.2.2-2)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E_f \cdot [(365 - P)/365]$

Mitigated Emission Factor, $E_{ext} = \frac{E_f \cdot [(365 - P)/365]}{125}$ where P = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)

	PM	PM10	PM2.5	
Unmitigated Emission Factor, E_f	6.14	1.56	0.16	lb/mile
Mitigated Emission Factor, E_{ext}	4.03	1.03	0.10	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	9.38	2.39	0.24	6.17	1.57	0.16	3.08	0.79	0.08
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	9.38	2.39	0.24	6.17	1.57	0.16	3.08	0.79	0.08
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.274	0.070	0.01	0.180	0.046	4.6E-03	0.090	0.023	2.3E-03
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.274	0.070	0.01	0.180	0.046	4.6E-03	0.090	0.023	2.3E-03
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.031	0.008	7.9E-04	0.020	0.005	5.2E-04	0.010	0.003	2.6E-04
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.031	0.008	7.9E-04	0.020	0.005	5.2E-04	0.010	0.003	2.6E-04
Aggregate/RAP Loader Full	Front-end loader (3 CY)	25.01	6.37	0.64	16.45	4.19	0.42	8.22	2.10	0.21
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	25.01	6.37	0.64	16.45	4.19	0.42	8.22	2.10	0.21
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	8.23	2.10	0.21	5.41	1.38	0.14	2.71	0.69	0.07
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	8.23	2.10	0.21	5.41	1.38	0.14	2.71	0.69	0.07
Totals		85.85	21.88	2.19	56.45	14.39	1.44	28.22	7.19	0.72

Methodology

Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
 Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]
 Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]
 Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] * [Maximum trips per year (trip/yr)]
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
 Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
 Average Vehicle Weight Per Trip (tons/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
 Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)

Abbreviations

PM = Particulate Matter PM10 = Particulate Matter (<10 um) PM2.5 = Particulate Matter (<2.5 um) PTE = Potential to Emit

Appendix A.2: Limited Emissions Summary
Paved Roads
Limited Emissions

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

Paved Roads at Industrial Site

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (12/2003).

Annual Asphalt Production Limitation	1,359,521	tons/yr
Percent Asphalt Cement/Binder (weight %)	5.0%	
Maximum Material Handling Throughput	1,291,545	tons/yr
Maximum Asphalt Cement/Binder Throughput	67,976	tons/yr
No. 2 Fuel Oil Limitation	2,011,134	gallons/yr

Process	Vehicle Type	Maximum Weight of Vehicle (tons)	Maximum Weight of Load (tons)	Maximum Weight of Vehicle and Load (tons/trip)	Maximum trips per year (trip/yr)	Total Weight driven per year (ton/yr)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles per day (miles/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	17.0	24.0	41.00	5.4E+04	2.2E+06	0	0.000	0.0
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	17.0	0	17.00	5.4E+04	9.1E+05	0	0.000	0.0
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	12.0	36.0	48.00	1.9E+03	9.1E+04	0	0.000	0.0
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	1.9E+03	2.3E+04	0	0.000	0.0
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	12.0	32.0	44.00	2.1E+02	9.3E+03	0	0.000	0.0
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	12.0	0	12.00	2.1E+02	2.5E+03	0	0.000	0.0
Aggregate/RAP Loader Full	Front-end loader (3 CY)	15.0	4.5	19.50	2.9E+05	5.6E+06	0	0.000	0.0
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	15.0	0	15.00	2.9E+05	4.3E+06	0	0.000	0.0
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	17.0	24.0	41.00	5.7E+04	2.3E+06	0	0.000	0.0
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	17.0	0	17.00	5.7E+04	9.6E+05	0	0.000	0.0
Total					8.0E+05	1.6E+07			0.0E+00

Average Vehicle Weight Per Trip = 20.6 tons/trip
 Average Miles Per Trip = 0.000 miles/trip

Unmitigated Emission Factor, $E_f = k \cdot (sL)^{0.91} \cdot (W)^{1.02}$ (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	20.6	20.6	20.6	tons = average vehicle weight (provided by source)
sL =	0.6	0.6	0.6	g/m ² = Ubiquitous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E_f \cdot [1 - (p/4N)]$

Mitigated Emission Factor, $E_{ext} = E_f \cdot [1 - (p/4N)]$
 where p = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
 N = 365 days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, E_f	0.15	0.03	0.01	lb/mile
Mitigated Emission Factor, E_{ext}	0.14	0.03	0.01	lb/mile
Dust Control Efficiency =	50%	50%	50%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Vehicle Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Aggregate/RAP Truck Enter Full	Dump truck (16 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aggregate/RAP Truck Leave Empty	Dump truck (16 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Cement/Binder Truck Enter Full	Tanker truck (6000 gal)	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00	0.000	0.0E+00	0.0E+00
Asphalt Cement/Binder Truck Leave Empty	Tanker truck (6000 gal)	0.000	0.000	0.0E+00	0.000	0.000	0.0E+00	0.000	0.0E+00	0.0E+00
Fuel Oil Truck Enter Full	Tanker truck (6000 gal)	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Fuel Oil Truck Leave Empty	Tanker truck (6000 gal)	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Aggregate/RAP Loader Full	Front-end loader (3 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aggregate/RAP Loader Empty	Front-end loader (3 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Concrete Truck Leave Full	Dump truck (16 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asphalt Concrete Truck Enter Empty	Dump truck (16 CY)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Methodology

Maximum Material Handling Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [1 - Percent Asphalt Cement/Binder (weight %)]
 Maximum Asphalt Cement/Binder Throughput = [Annual Asphalt Production Limitation (tons/yr)] * [Percent Asphalt Cement/Binder (weight %)]
 Maximum Weight of Vehicle and Load (tons/trip) = [Maximum Weight of Vehicle (tons/trip)] + [Maximum Weight of Load (tons/trip)]
 Maximum trips per year (trip/yr) = [Throughput (tons/yr)] / [Maximum Weight of Load (tons/trip)]
 Total Weight driven per year (ton/yr) = [Maximum Weight of Vehicle and Load (tons/trip)] * [Maximum trips per year (trip/yr)]
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
 Maximum one-way miles (miles/yr) = [Maximum trips per year (trip/yr)] * [Maximum one-way distance (mi/trip)]
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per year (ton/yr)] / SUM[Maximum trips per year (trip/yr)]
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/yr)] / SUM[Maximum trips per year (trip/yr)]
 Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)

Abbreviations

PM = Particulate Matter PM10 = Particulate Matter (<10 um) PM2.5 = Particulate Matter (<2.5 um) PTE = Potential to Emit

**Appendix A.2: Limited Emissions Summary
Cold Mix Asphalt Production and Stockpiles**

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

The following calculations determine the amount of VOC and HAP emissions created from volatilization of solvent used as diluent in the liquid binder for cold mix asphalt production

Limited VOC Emissions from the Sum of the Liquid Binders = 0.0 tons/yr

Volatile Organic Compounds

	Maximum weight % of VOC solvent in binder	Weight % VOC solvent in binder that evaporates	VOC Solvent Usage Limitation (tons/yr)	Limited PTE of VOC (tons/yr)	Liquid Binder Adjustment Ratio
Cut back asphalt rapid cure (assuming gasoline or naphtha solvent)	25.3%	95.0%	0.0	0.0	#DIV/0!
Cut back asphalt medium cure (assuming kerosene solvent)	28.6%	70.0%	0.0	0.0	#DIV/0!
Cut back asphalt slow cure (assuming fuel oil solvent)	20.0%	25.0%	0.0	0.0	#DIV/0!
Emulsified asphalt with solvent (assuming water, emulsifying agent, and 15% fuel oil solvent)	15.0%	46.4%	0.0	0.0	#DIV/0!
Other asphalt with solvent binder	25.9%	2.5%	0.0	0.0	#DIV/0!
Worst Case Limited PTE of VOC =				0.0	

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0% Xylenes
Limited PTE of Total HAPs (tons/yr) =	0.00
Limited PTE of Single HAP (tons/yr) =	0.00 Xylenes

Hazardous Air Pollutant (HAP) Content (% by weight) For Various Petroleum Solvents*

Volatile Organic HAP	CAS#	Hazardous Air Pollutant (HAP) Content (% by weight)* For Various Petroleum Solvents				
		Gasoline	Kerosene	Diesel (#2) Fuel Oil	No. 2 Fuel Oil	No. 6 Fuel Oil
1,3-Butadiene	106-99-0	3.70E-5%				
2,2,4-Trimethylpentane	540-84-1	2.40%				
Acenaphthene	83-32-9		4.70E-5%		1.80E-4%	
Acenaphthylene	208-96-8		4.50E-5%		6.00E-5%	
Anthracene	120-12-7		1.20E-6%	5.80E-5%	2.80E-5%	5.00E-5%
Benzene	71-43-2	1.90%		2.90E-4%		
Benzo(a)anthracene	56-55-3			9.60E-7%	4.50E-7%	5.50E-4%
Benzo(a)pyrene	50-32-8			2.20E-6%	2.10E-7%	4.40E-5%
Benzo(g,h,i)perylene	191-24-2			1.20E-7%	5.70E-8%	
Biphenyl	92-52-4			6.30E-4%	7.20E-5%	
Chrysene	218-01-9			4.50E-7%	1.40E-6%	6.90E-4%
Ethylbenzene	100-41-4	1.70%		0.07%	3.40E-4%	
Fluoranthene	206-44-0		7.10E-6%	5.90E-5%	1.40E-5%	2.40E-4%
Fluorene	86-73-7		4.20E-5%	8.60E-4%	1.90E-4%	
Indeno(1,2,3-cd)pyrene	193-39-5			1.60E-7%		1.00E-4%
Methyl-tert-butylether	1634-04-4	0.33%				
Naphthalene	91-20-3	0.25%	0.31%	0.26%	0.22%	4.20E-5%
n-Hexane	110-54-3	2.40%				
Phenanthrene	85-01-8		8.60E-6%	8.80E-4%	7.90E-4%	2.10E-4%
Pyrene	129-00-0		2.40E-6%	4.60E-5%	2.90E-5%	2.30E-5%
Toluene	108-88-3	8.10%		0.18%	6.20E-4%	
Total Xylenes	1330-20-7	9.00%		0.50%	0.23%	
Total Organic HAPs		26.08%	0.33%	1.29%	0.68%	0.19%
Worst Single HAP		9.00%	0.31%	0.50%	0.23%	0.07%
		Xylenes	Naphthalene	Xylenes	Xylenes	Chrysene

Methodology

Limited PTE of VOC (tons/yr) = [Weight % VOC solvent in binder that evaporates] * [VOC Solvent Usage Limitation (tons/yr)]
 Limited PTE of Total HAPs (tons/yr) = [Worst Case Total HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]
 Limited PTE of Single HAP (tons/yr) = [Worst Case Single HAP Content of VOC solvent (weight %)] * [Worst Case Limited PTE of VOC (tons/yr)]

*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science.

Abbreviations

VOC = Volatile Organic Compounds
 PTE = Potential to Emit

**Appendix A.2: Limited Emissions Summary
Gasoline Fuel Transfer and Dispensing Operation**

Company Name: Brooks Construction Company, Inc.
Source Address: 2195 West US 421, Delphi, IN 46923
Permit Number: F 015-32317-03291
Reviewer: Renee Traivaranon

Note: Since the emissions from the gasoline fuel transfer and dispensing operation are minimal, the limited emissions are equal to the unlimited emissions.

To calculate evaporative emissions from the gasoline dispensing fuel transfer and dispensing operation handling emission factors from AP-42 Table 5.2-7 were used. The total potential emission of VOC is as follows:

$$\begin{aligned} \text{Gasoline Throughput} &= 0 \text{ gallons/day} \\ &= 0.0 \text{ kgal/yr} \end{aligned}$$

Volatile Organic Compounds

Emission Source	Emission Factor (lb/kgal of throughput)	PTE of VOC (tons/yr)*
Filling storage tank (balanced submerged filling)	0.3	0.00
Tank breathing and emptying	1.0	0.00
Vehicle refueling (displaced losses - controlled)	1.1	0.00
Spillage	0.7	0.00
Total		0.00

Hazardous Air Pollutants

Worst Case Total HAP Content of VOC solvent (weight %)* =	26.08%	
Worst Case Single HAP Content of VOC solvent (weight %)* =	9.0%	Xylenes
Limited PTE of Total HAPs (tons/yr) =	0.00	
Limited PTE of Single HAP (tons/yr) =	0.00	Xylenes

Methodology

The gasoline throughput was provided by the source.

$$\text{Gasoline Throughput (kgal/yr)} = [\text{Gasoline Throughput (lbs/day)}] * [365 \text{ days/yr}] * [\text{kgal}/1000 \text{ gal}]$$

$$\text{PTE of VOC (tons/yr)} = [\text{Gasoline Throughput (kgal/yr)}] * [\text{Emission Factor (lb/kgal)}] * [\text{ton}/2000 \text{ lb}]$$

$$\text{PTE of Total HAPs (tons/yr)} = [\text{Worst Case Total HAP Content of VOC solvent (weight \%)}] * [\text{PTE of VOC (tons/yr)}]$$

$$\text{PTE of Single HAP (tons/yr)} = [\text{Worst Case Single HAP Content of VOC solvent (weight \%)}] * [\text{PTE of VOC (tons/yr)}]$$

*Source: Petroleum Liquids. Potter, T.L. and K.E. Simmons. 1998. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 2. Composition of Petroleum Mixtures. The Association for Environmental Health and Science.

Abbreviations

VOC = Volatile Organic Compounds

PTE = Potential to Emit



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

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SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: John Brooks
Brooks Construction Co.
6525 Ardmore Ave/PO Box 9560
Fort Wayne, IN 46809

DATE: January 15, 2013

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
FESOP - Significant Permit Revision
015 - 32317 - 03291

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
Jim Heim Bruce Carter Associates
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 11/30/07



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

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(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

January 15, 2013

TO: Delphi Public Library

From: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: Brooks Construction Co.
Permit Number: 015 - 32317 - 03291

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 11/30/07



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

TO: Interested Parties / Applicant

DATE: January 15, 2013

RE: Brooks Construction Co. / 015 - 32317 - 03291

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

In order to conserve paper and reduce postage costs, IDEM's Office of Air Quality is now sending many permit decisions on CDs in Adobe PDF format. The enclosed CD contains information regarding the company named above.

This permit is also available on the IDEM website at:
<http://www.in.gov/ai/appfiles/idem-caats/>

If you would like to request a paper copy of the permit document, please contact IDEM's central file room at:

Indiana Government Center North, Room 1201
100 North Senate Avenue, MC 50-07
Indianapolis, IN 46204
Phone: 1-800-451-6027 (ext. 4-0965)
Fax (317) 232-8659

Please Note: *If you feel you have received this information in error, or would like to be removed from the Air Permits mailing list, please contact Patricia Pear with the Air Permits Administration Section at 1-800-451-6027, ext. 3-6875 or via e-mail at PPEAR@IDEM.IN.GOV.*

Enclosures
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2		Delphi City Council and Mayors Office 201 S. Union St Delphi IN 46923 (Local Official)									
3		Carroll County Commissioners 101 West Main Street Delphi IN 46923 (Local Official)									
4		Carroll County Health Department 101 W. Main, Courthouse Delphi IN 46923-1566 (Health Department)									
5		Delphi Public Library 222 E Main St Delphi IN 46923-1593 (Library)									
6		Mr. Steve Offitt 6304 West 175 South Kewanna IN 46939 (Affected Party)									
7		Mr. Robert Kelley 2555 S 30th Street Lafayette IN 44909 (Affected Party)									
8		Jim Heim Bruce Carter Associates 616 South 4th Street Elkhart IN 46516 (Consultant)									
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